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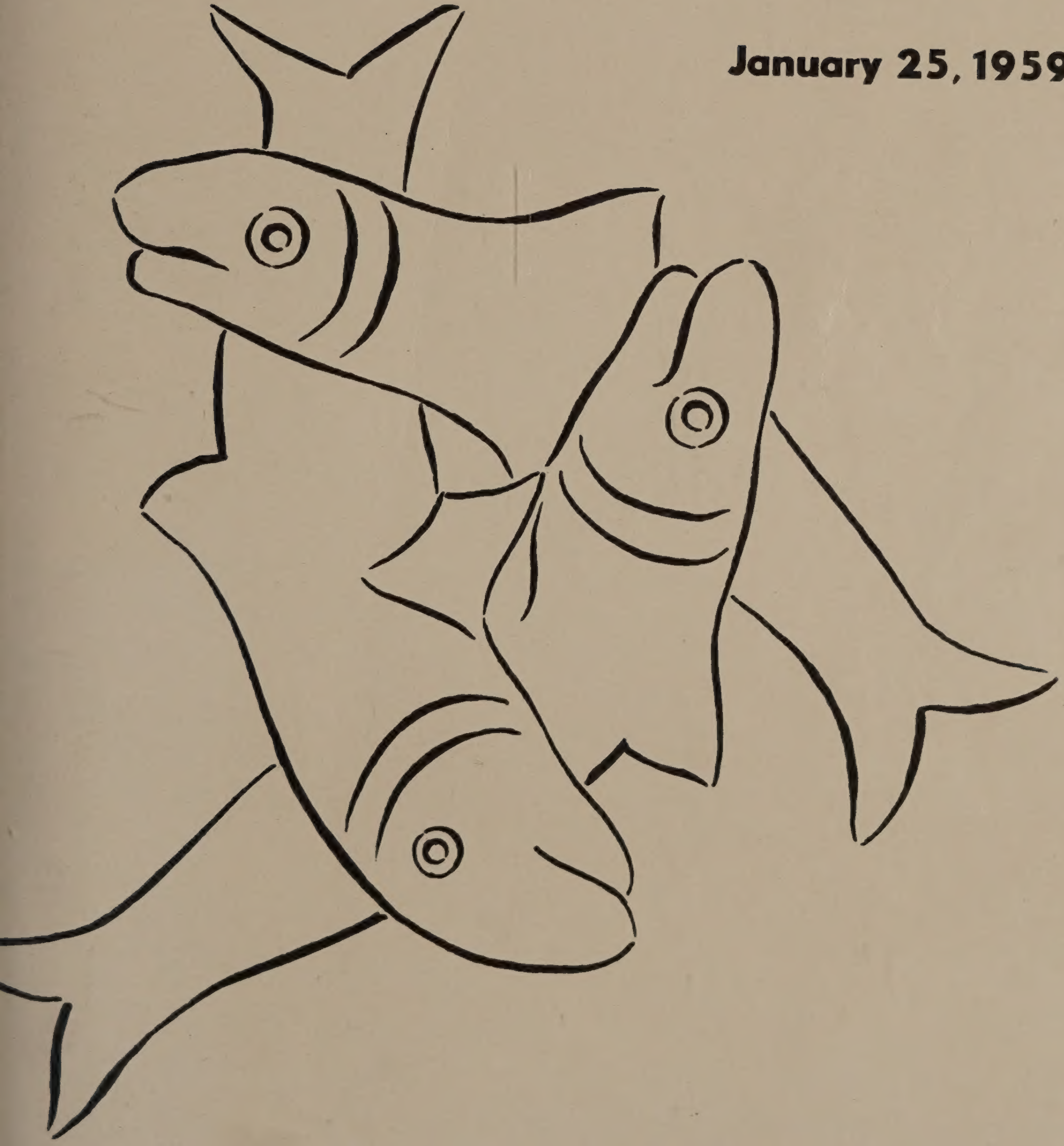
PACIFIC FISHERMAN

January 25, 1959



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Members:

Association of Pacific Fisheries

Reference:

The National Bank of Commerce of Seattle

A FRANK MEMORANDUM ABOUT SUCCESSFUL SALMON SELLING

To build satisfactory selling, engage an experienced sales organization. . . **We've been in this business 42 years.**

Sales through a sound organization build confidence and lead to repeat business. . . **Our outlets are selected fo stability, intelligence and aggressive selling.**

Short-cuts in distribution destroy confidence and demoraliz the market. . . **Detours are always rocky. The McGover methods call for care, planning and faithful devotion t our principals' interests, ALWAYS.**

Sound selling calls for know-how. . . **That's what we've bee building through the years. It's yours for the asking whe we sell your Sea Food Products.**

Sales through legitimate channels bring stability to th market. . . **That's our message; and it's sound. We'v proved it in 42 years of selling in the domestic ar export fields.**

McGOVERN & McGOVER

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YEARBOOK NUMBER

Vol. 57 **January 25, 1959** **No. 2**

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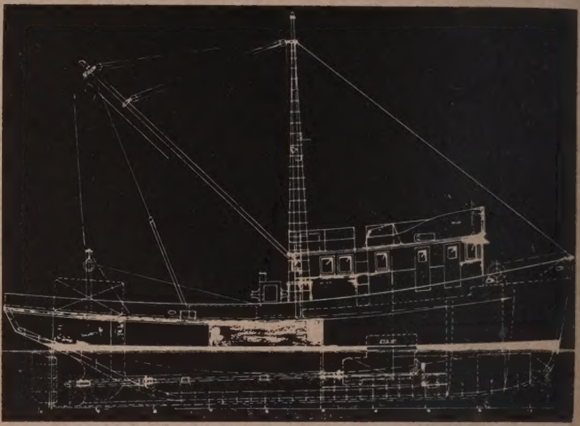
The Cover

- Fish are an ancient symbol of Christianity, going back to its early centuries, when the design and the word were used as countersigns among the persecuted Christians of Rome. The trinity of salmon entwined on the cover of this Yearbook Number is sketched from a carving on a medieval tomb in Britain.

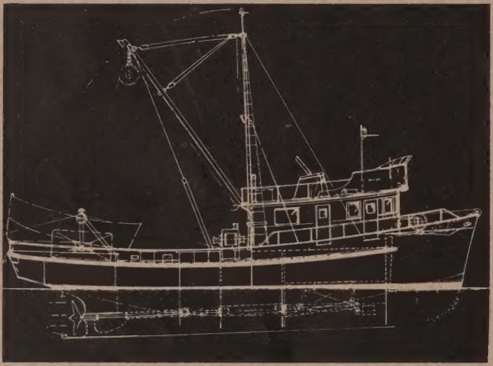
Symbolic use of fish in Christian practice apparently arose from an acrostic. The letters of the Greek word for fish, appearing on our cover, are the initials of the words in the formal name of Christ—Jesus Christ, Son of God, Savior.

HANSON-DESIGNED FOR TODAY'S NEEDS

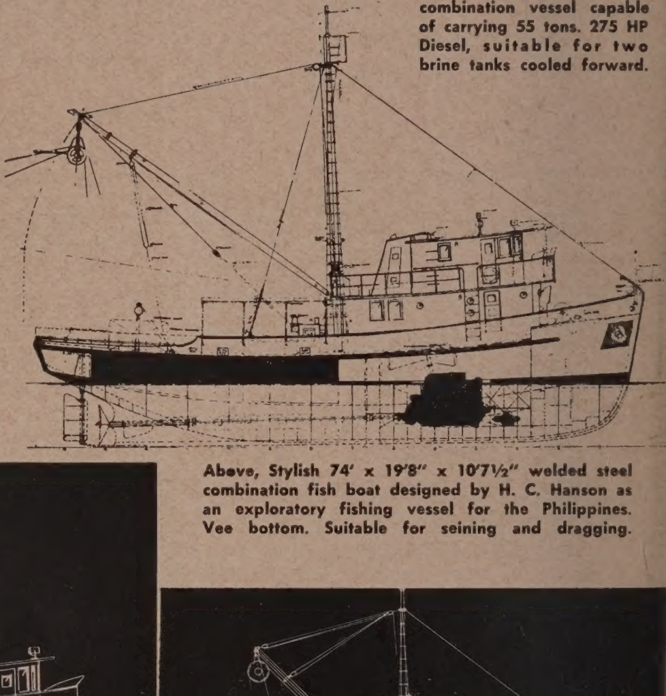
SERVICE ROUND THE WORLD



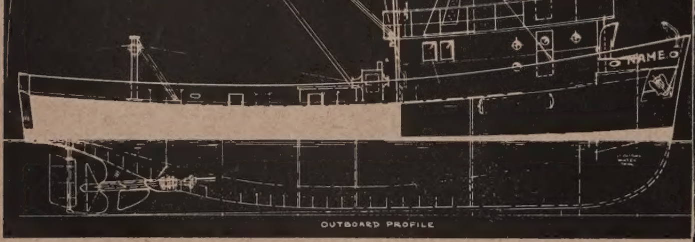
Above, 65′ x 18′ all steel combination vessel capable of carrying 55 tons. 275 HP Diesel, suitable for two brine tanks cooled forward.



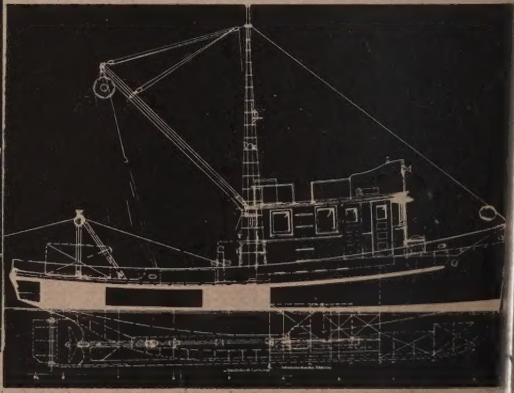
Above, 57′ x 16′ all steel combination vessel. Speed up to 11 knots. Will take up to 240 HP. Suitable for two cooling tanks.



Above, Stylish 74′ x 19′8″ x 10′7½″ welded steel combination fish boat designed by H. C. Hanson as an exploratory fishing vessel for the Philippines. Vee bottom. Suitable for seining and dragging.



Above, Welded Steel Combination vessel 74′ x 20′ x 120 tons capacity. 300 HP, speed up to 12 knots. Two brine tanks cooled.



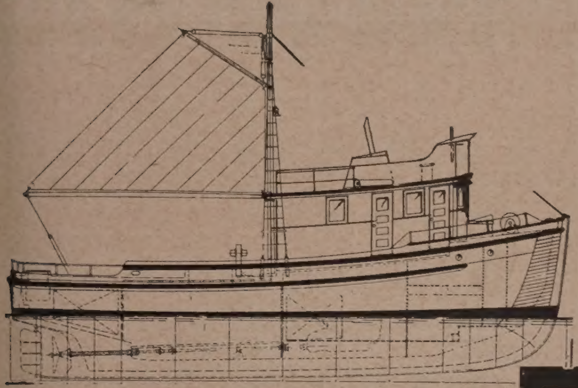
Above, 45′ x 13′ x 4′ all steel combination boat. Speed up to 10 knots. Capacity 20 tons. Suitable for two brine tanks forward.

Domestic and Foreign Inquiries for Plans and Specifications for All Types and Sizes of Fishing Vessels Acknowledged Promptly.

H. C. HANSON, NAVAL ARCHITECT

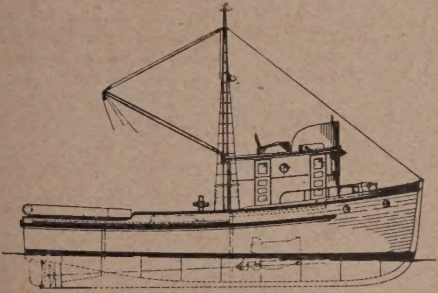
102 COLMAN FERRY TERMINAL
SEATTLE 4, WASHINGTON
MAin 3-35

HANSON-DESIGNED FOR TODAY'S NEEDS

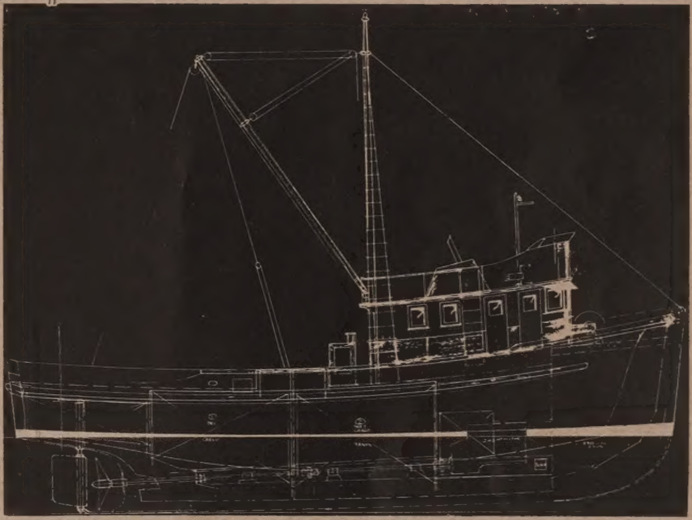


Combination vessel, Family type. 46'6" x 14' x 5'6" draft. Wooden Construction. Suitable 165 HP. Speed 10 knots, seaworthy.

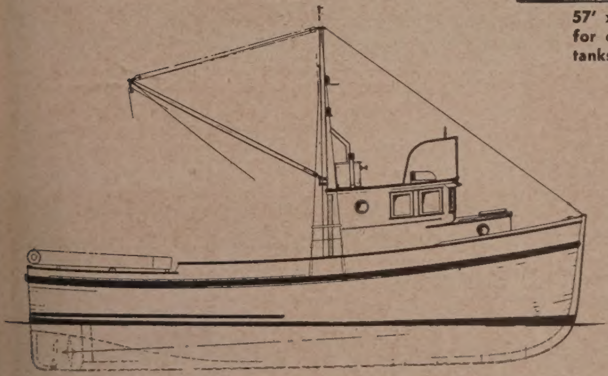
SERVICE ROUND THE WORLD



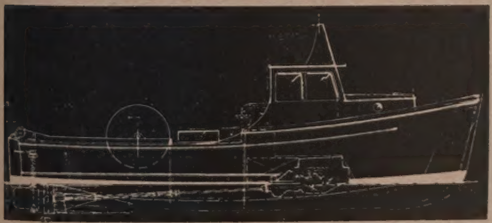
45' x 14'6" x 4' Beach Seiner, with or without seine table. Capacity 25 tons.



57' x 16' wooden Vee type combination boat for Alaska seining and for crabbing. Suitable for 240 HP Diesel and with two brine cooling tanks forward. Economical construction.



38' x 12' x 3' draft Beach Seiner, Capacity 7 tons.



32' x 10' x 2' draft Wooden Gillnetter and Beach Seiner. Economical construction.

Domestic and Foreign Inquiries for Plans and Specifications for All Types and Sizes of Fishing Vessels Acknowledged Promptly.

37' x 11' heavy weather troller and combination boat. Wood construction. Fast and able.

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Specially designed with maximum tensile strength, for seining tuna, for gill-netting salmon, etc.

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Her net is made of Momoi Hi-Tenacity Nyl
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boats.

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netting. All Momoi webbing is lab-tested a
field-tested. You get the proven best.

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moisture, oils, acids, rust, marine growths. Nee
no drying, requires minimum care, **saves fishi
time.**

Greater Net Profits: The longer your net lasts,
less it costs you. The less time you spend on
the more fishing time you have. Both ways,
make money with a Momoi synthetic net.
details, call or write . . .

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For efficient, profitable operation, the **Santa Helena** is equipped from crow's nest to keel with the finest, most up-to-date operating and fishing equipment.

Largest purse seiner afloat, and a beautiful boat—the **Santa Helena** shown getting the finishing touches at Fellows & Stewart, Terminal Island, Calif., before starting her first trip. Built by Avondale, she's 136 ft. by 30 ft., all steel, has a capacity of over 300 tons of refrigerated fish.

Above is Frank Gargas, new skipper of the **Santa Helena,** and here's what he says about Momoi Synthetic Netting:

"I used a Momoi net on my former boat, and I know from experience that Momoi makes excellent quality synthetic webbing. With our Momoi net, we got all our netted fish into the boat. Also, I know other fishermen who use Momoi nets, and they have the same good luck I've had.

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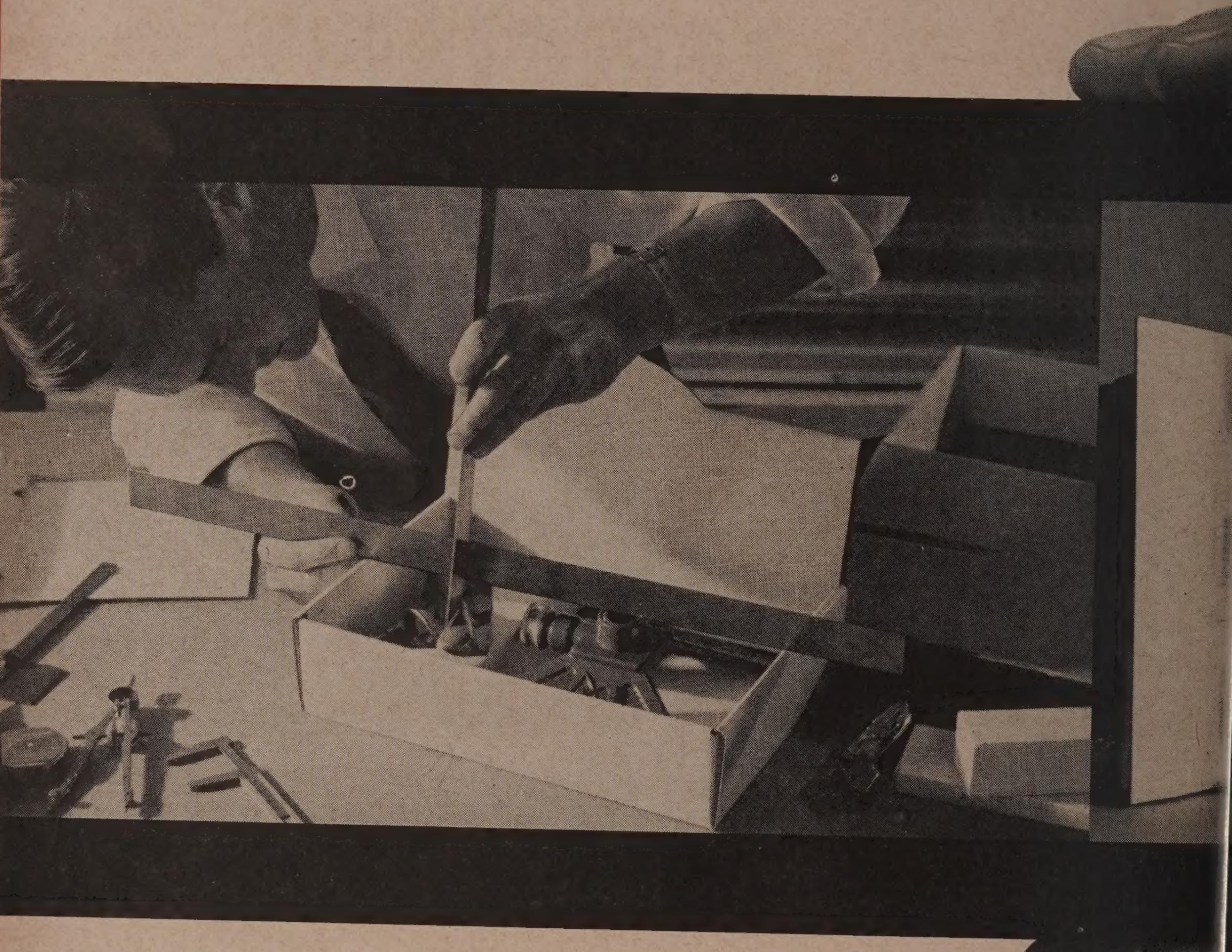

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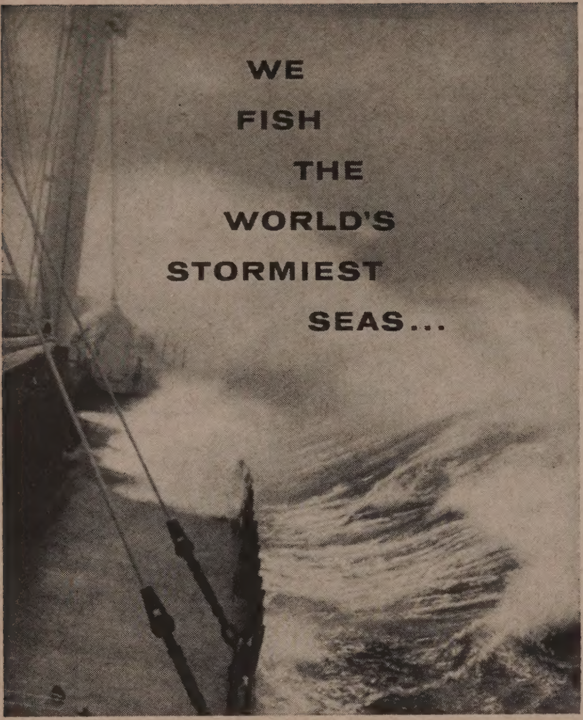

for the

FABULOUS KING CRAB

150 fathoms beneath the remote and stormy Bering Sea, swims one of the world's greatest gourmet treasures, the Alaska King Crab. Wakefield sends out American ships especially equipped to venture among the icebergs of these dangerous seas, bring up the ten to twenty pound giants in immense nets, then prepare and quick-freeze their succulent meat fresh from the icy Arctic waters. And shellfish fanciers agree, the result is worth the trouble.

Only **WAKEFIELD'S** Offers:

- **18 years of experience freezing ALASKA KING CRAB.**
- **Superb quality . . . always.**
- **Year-round supply, with plants and ships in every Alaska King Crab producing area.**
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- **National Advertising . . . An aggressive merchandising program.**

Dealer Inquiries Invited.

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WAKEFIELD'S
ALASKA
King Crab Meat

WAKEFIELD'S

GIANT ALASKA

FRESH-FROZEN KING CRAB

for immediate repairs

for modern repowering

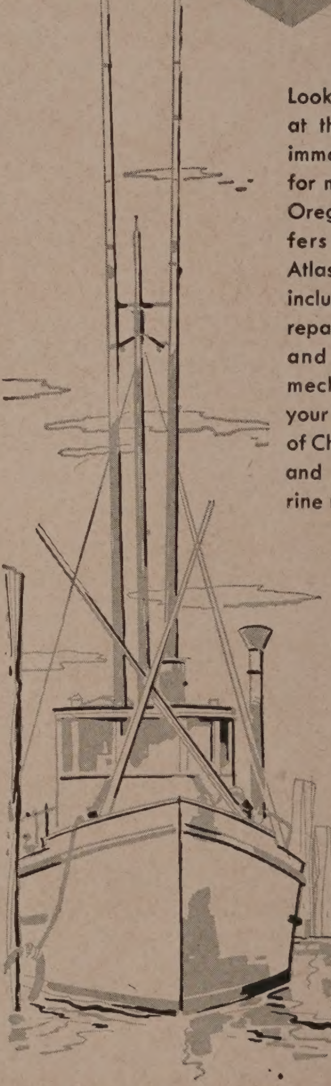
get complete . . .

CHRYSLER

SALES and SERVICE

. . . at this sign

White DIESEL



Look for the White Diesel sign at the ports listed below for immediate Chrysler repairs or for modern re-powering. From Oregon to Alaska, White offers Chrysler, Superior and Atlas engine sales and service, including a complete stock of repair parts and maintenance and overhaul by qualified mechanics. For re-powering your boat, ask about the line of Chrysler and White Superior and Atlas engines for all marine requirements.

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Phone AT 3-1909

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MATHEWS Retort Roller Conveyers assure maximum economy and ease in handling. Case Handling Conveyers keep materials moving and reduce handling costs.

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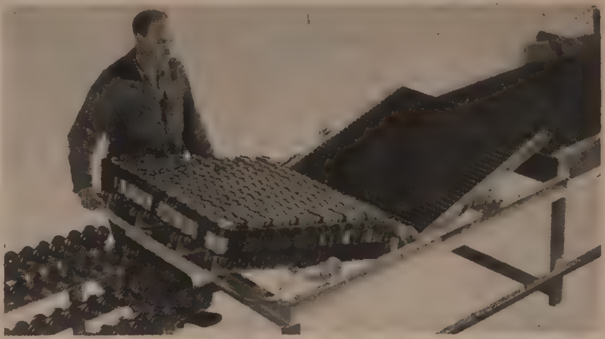

Let experienced engineers from our West Coast factory or branch offices show you how you might reduce your handling costs with MATHEWS Conveyers. We are interested in helping you.

WRITE, WIRE OR CALL ON US TODAY!

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HOllywood 9-1673

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TAKING THE
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PACIFIC FISHERMA

One of a series of advertisements prepared by THE ASSOCIATED BUSINESS PUBLICATIONS

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PACIFIC FISHING & TRADING CO.

AS DISTRIBUTORS OF

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FOR WASHINGTON AND ALASKA

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You get more usable horsepower per dollar when you buy a PALMER Model IH Engine.

THE PALMER ENGINE COMPANY

Cos Cob, Connecticut

A NEW LINE OF ENGINES FOR FISHERMEN!

PALMER Heavy-Duty Gasoline Engines

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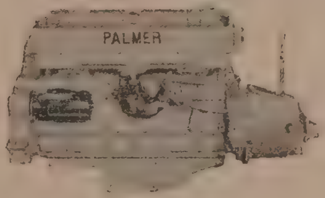

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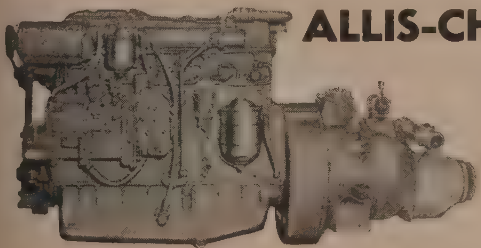

ALLIS-CHALMERS Marine Diesel Engines

New heavy duty Allis-Chalmers Diesel Engines. The Model 16000 at 230 hp and the Model 21000, turbocharged develops 340 hp. The two new engines have a basic weight of only 3000 pounds and feature simplicity, ruggedness and easy servicing. These engines are built for easy starting, clear exhaust throughout the speed and power range and low fuel consumption. Ask us for details on these new engines built for fishermen everywhere.

• • • • • •

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WE SUPPLY EVERY COMMERCIAL FISHING NEED!

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Full Automatic 300 H.P.
Watertube Boiler

NEW and USED
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BOILER TUBES
— ALL SIZES —
QUICK DELIVERY
REPAIRS—24 Hour Service

COOKERS — RETORTS — PRESSURE VESSELS

SEATTLE BOILER WORKS, INC.
5237 E. Marginal Way, Seattle 4. PA 2-0737

. . . OR PROTECTED!

To a fisherman, his boat means everything – livelihood, transportation, a home away from home. If his boat is damaged or destroyed, it can mean hardship or disaster to the man who lives by the sea. What does he look for – more than anything else – in the paint he puts on that boat?

Protection. Positive protection against the salt of the sea . . . the heat of the sun . . . the drive of the rain and sleet and hail . . . the ceaseless attack of the hungry host of predatory creatures that move everywhere in the ocean's reaches.

Since 1861 the name Pettit has stood for this solid protection. With Pettit's anti-fouling bottom paints, element-resisting varnishes, hull and deck paints, your investment in your boat is drydock-safe every time out . . . and your future is smooth sailing every knot of the way.

PETTIT
marine paint

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Belleville, N. J. • San Leandro, Calif.

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Established 1900

"The Main Place For Sea Foods"

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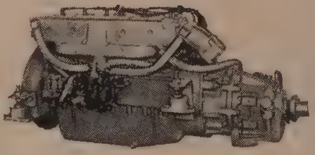
3 FIREBALL V-8's

Gray's smooth V-8's—new 135 hp and 170 hp, also 225 hp—have already distinguished themselves in many varied installations for those who want top power in a lightweight, compact yet sturdy package. Many features, including new Warner hydraulic gear, smooth idling, quick acceleration, top-of-engine servicing and balanced cooling.

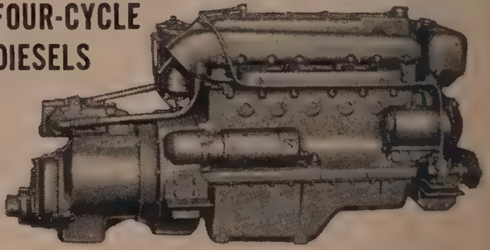
19 FOURS AND SIXES

Gray's nine 4-cylinder engines cover a wide range of requirements, and are rated at 25, 31, 45, 60, 63, 70, 75, 85 and 90 hp.



Gray's 109 hp Model 109 (shown) is popular with workboat operators, and one of ten fast, smooth 6-cylinder engines rated at 109, 116, 118, 120, 136, 150, 165, 175, 185 and 200 hp.

6 FOUR-CYCLE DIESELS



Gray's 130 hp Six-D427 shown, use-proved for years in Government service, is representative of the Gray Diesel line—25, 30, 60, 130, 150 hp, and now the new 190 hp Six-D802. For those who want the benefits of Diesel power, Gray's four-cycle design is an extra advantage, resulting in simpler maintenance and smoother, quieter operation.

LOS ANGELES & NEWPORT BEACH—Charles E. Smith; SAN DIEGO—Koehler Kraft Co.; SAN FRANCISCO—Hall-Young Co.; SEATTLE, OREGON & ALASKA—Apex Marine & Equipment Co.; HONOLULU—Ala Wai Boat Works, Ltd.; VANCOUVER—Northern Engine & Equipment, (BC) Ltd.

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SAMSON BRAND Braided Lines are made in a wide variety of materials—synthetic or natural fibers.

Braided Line is the only rope that can be adapted to a fisherman's specific needs. Built-in flexibility, strength and controlled stretch make SAMSON BRAND Braided Line a superior quality rope to all other types used by fishermen.

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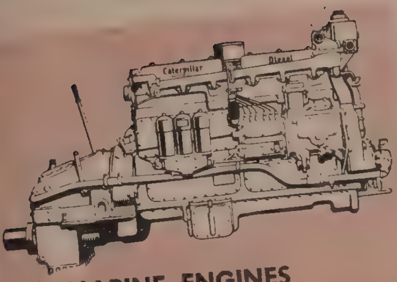
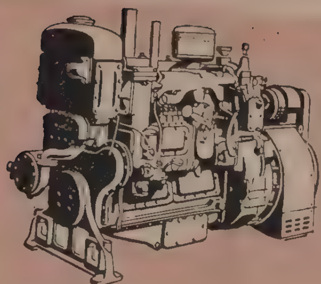
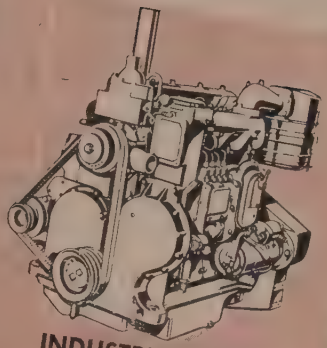
Now, it is possible for you, too, to cover **"The World's Longest Waterfront".**



MARINE ENGINES



GENERATING SETS



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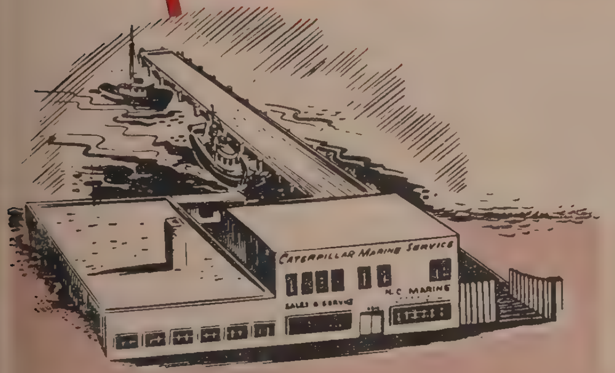

When you fish the north Pacific or operate a cannery at a remote location, dependable equipment is important. That's why so many fishermen and canners depend upon N C Marine in Seattle or the five Northern Commercial machinery stores in Alaska for their equipment and supplies. Strategic locations on Puget Sound and in Alaska, conveniently available parts and service plus such quality lines as Caterpillar make N C the Machinery headquarters for the Pacific Fishing Industry.

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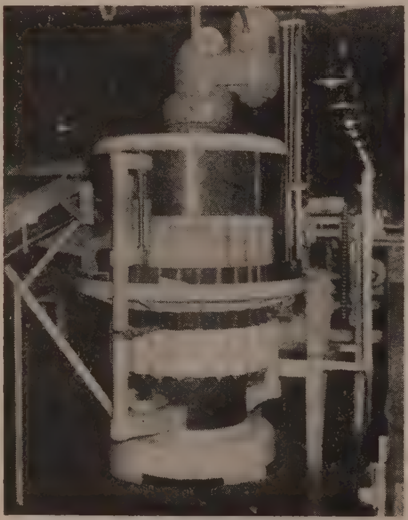
Pak-Shaper's Introduction in 1949 developed in tuna canning a greater measure of mechanization than had come about in 30 years of previous growth. . . . Subsequent experience has proved its value to the industry. A large percentage of major tuna operators presently employ the Pak-Shaper.



THE PAK-FORMER

The Pak-Former Now Available to the Tuna Industry

This machine has been developed exclusively for Chunk and Grated Style Pack. A variable speed drive permits filling speed adjustments of between 140 and 250 cans per minute. Available to the industry under similar terms as the Pak-Shaper.

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The Best you can Buy!
ALASKA (U.S.A.)
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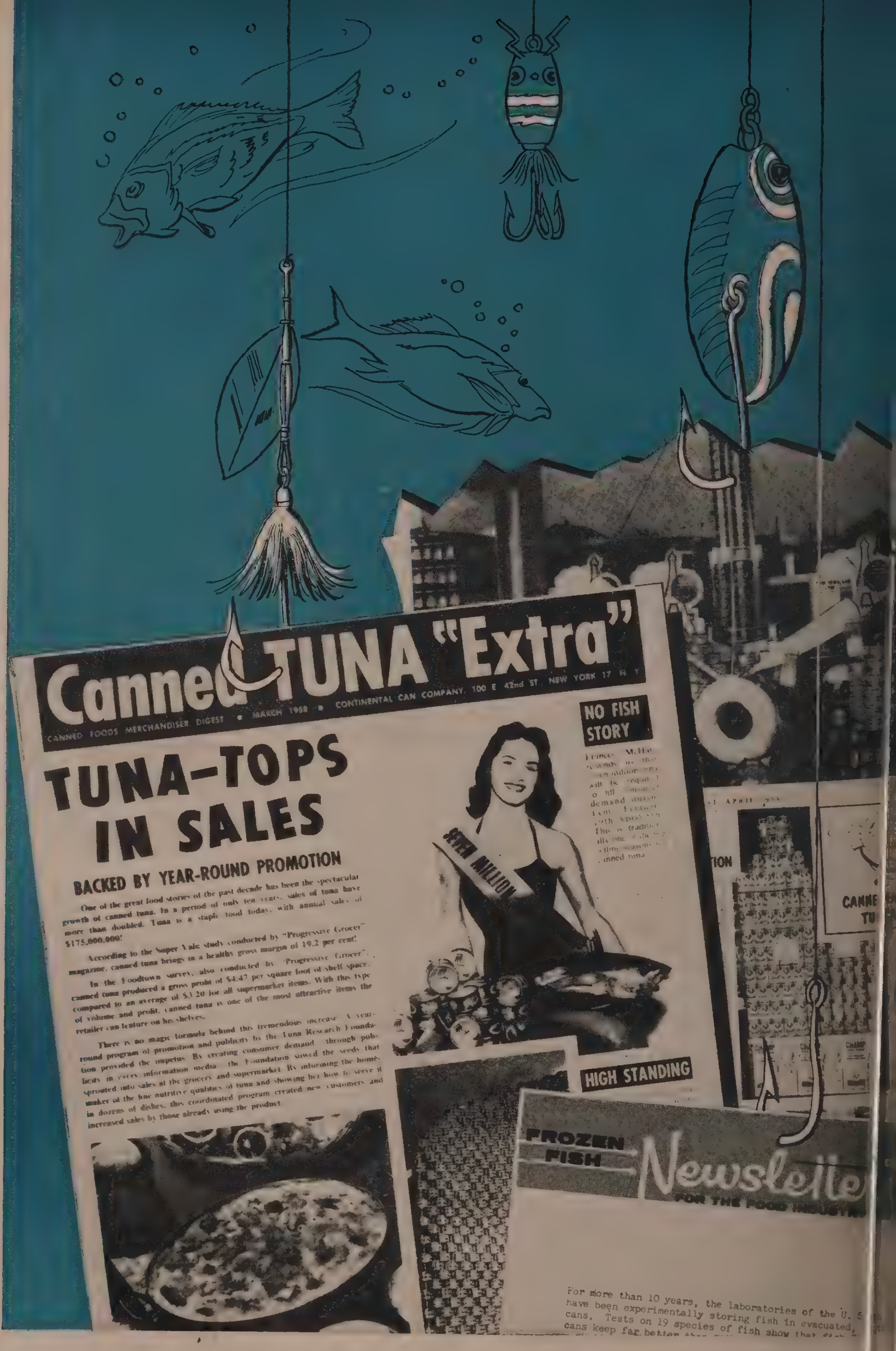

Canned TUNA "Extra"

CANNED FOODS MERCHANDISER DIGEST • MARCH 1958 • CONTINENTAL CAN COMPANY, 100 E. 42nd ST., NEW YORK 17, N. Y.

TUNA–TOPS IN SALES

BACKED BY YEAR-ROUND PROMOTION

One of the great food stories of the past decade has been the spectacular growth of canned tuna. In a period of only ten years, sales of tuna have more than doubled. Tuna is a staple food today, with annual sales of $175,000,000!

According to the Super Valu study conducted by "Progressive Grocer" magazine, canned tuna brings in a healthy gross margin of 19.2 per cent!

In the Foodtown survey, also conducted by "Progressive Grocer", canned tuna produced a gross profit of $4.47 per square foot of shelf space, compared to an average of $3.20 for all supermarket items. With this type of volume and profit, canned tuna is one of the most attractive items the retailer can feature on his shelves.

There is no magic formula behind this tremendous increase. A year-round program of promotion and publicity by the Tuna Research Foundation provided the impetus. By creating consumer demand through publicity in every information media, the Foundation sowed the seeds that sprouted into sales at the grocery and supermarket. By informing the homemaker of the fine nutritive qualities of tuna and showing her how to serve it in dozens of dishes, this coordinated program created new customers and increased sales by those already using the product.

NO FISH STORY

HIGH STANDING

APRIL

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FROZEN FISH Newslette

FOR THE FOOD INDUSTR

For more than 10 years, the laboratories of the U. S
have been experimentally storing fish in evacuated,
cans. Tests on 19 species of fish show that
cans keep far better

How Continental hooks sales for fish and sea food packers

Our interest in our customers doesn't stop when you receive a shipment of containers at your plant. We pitch right in and help move your product on the national market. For example, we give fish big play in our *Canned Foods Merchandiser Digest*—an idea-filled tabloid mailed regularly to headquarters buyers and 100,000 supermarket operators throughout the U. S. We issue helpful, fish-promoting bulletins to the most aggressive food brokers. And hundreds of newspapers, magazines, and home economists get our feature articles suggesting new ways to prepare and serve fish.

Here are some of our recent efforts on behalf of tuna. Other fish and sea foods get similar support. Wherever you are, whatever you pack, Continental works to hook sales for you.

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1120 Wilshire Boulevard, Los Angeles 17
Executive Building, Portland 4
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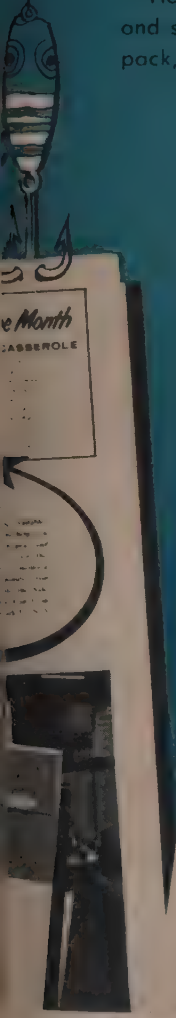
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CANNED FOODS
Merchandiser Digest
NUMBER 35
CONTINENTAL CAN COMPANY 100 E 42nd ST NEW YORK 17 N Y
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HOW TO SELL MORE CANNED TUNA
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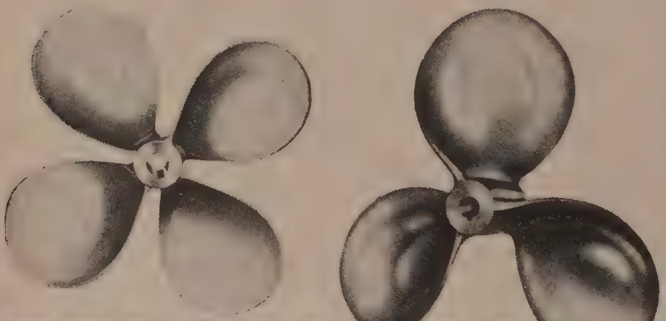

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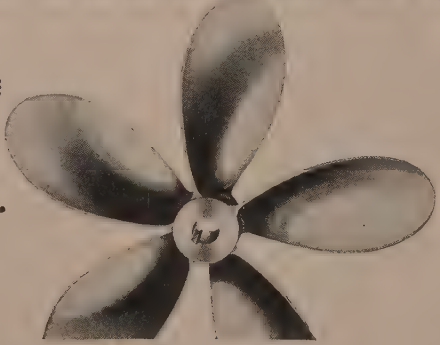
GRAND RAPIDS 3, MICHIGA



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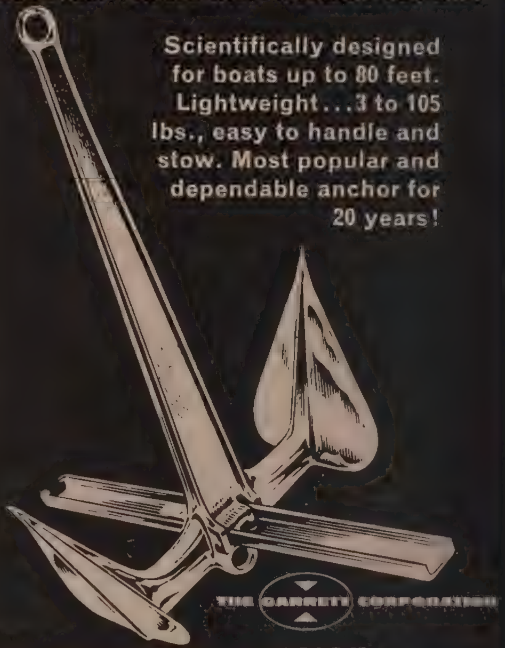

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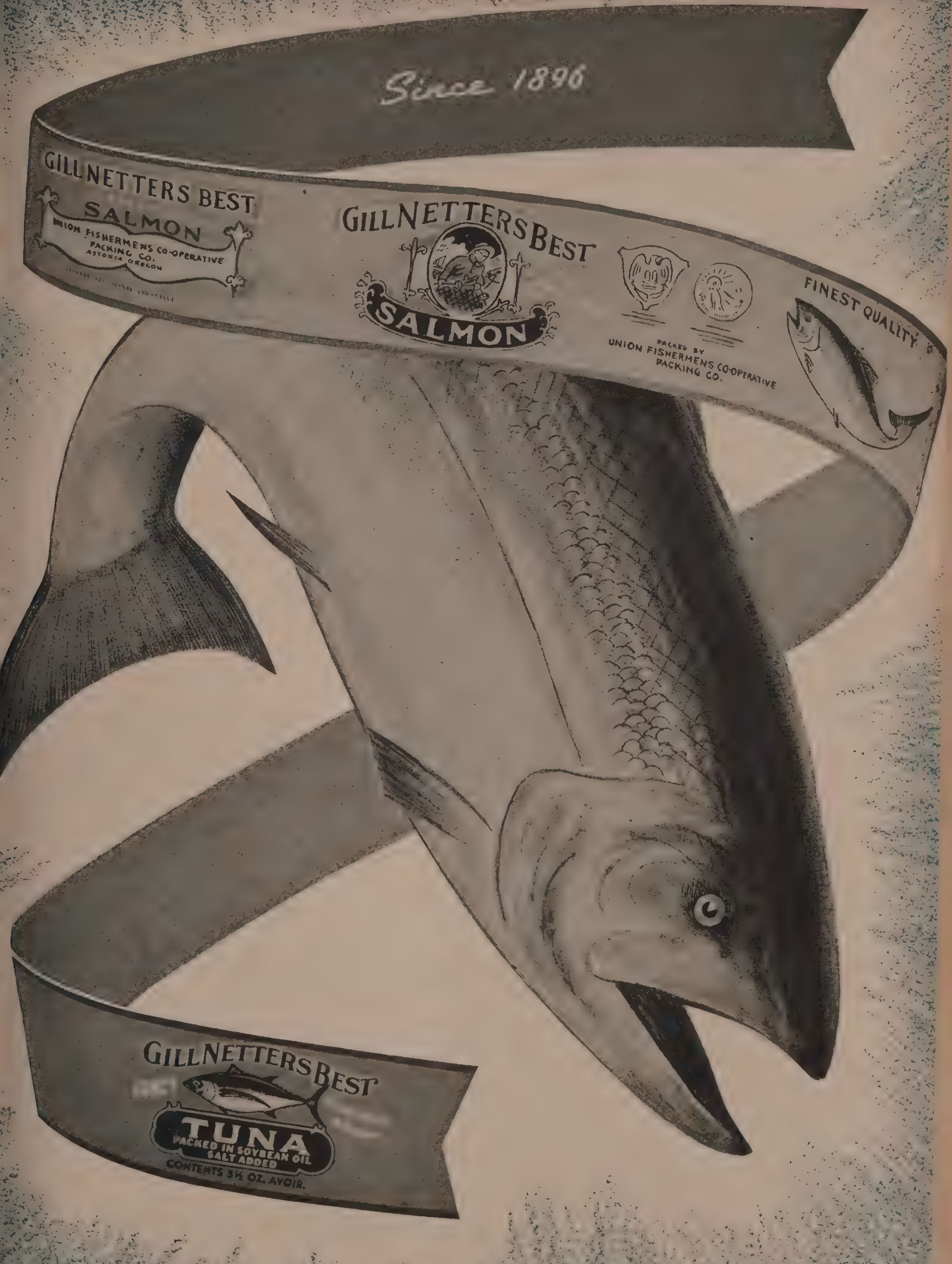
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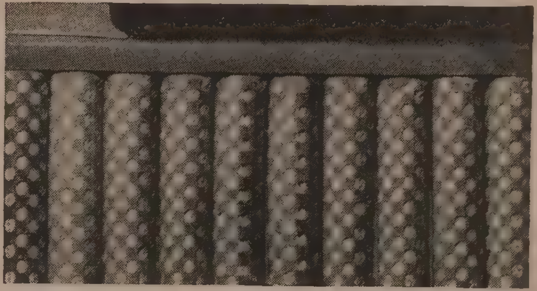

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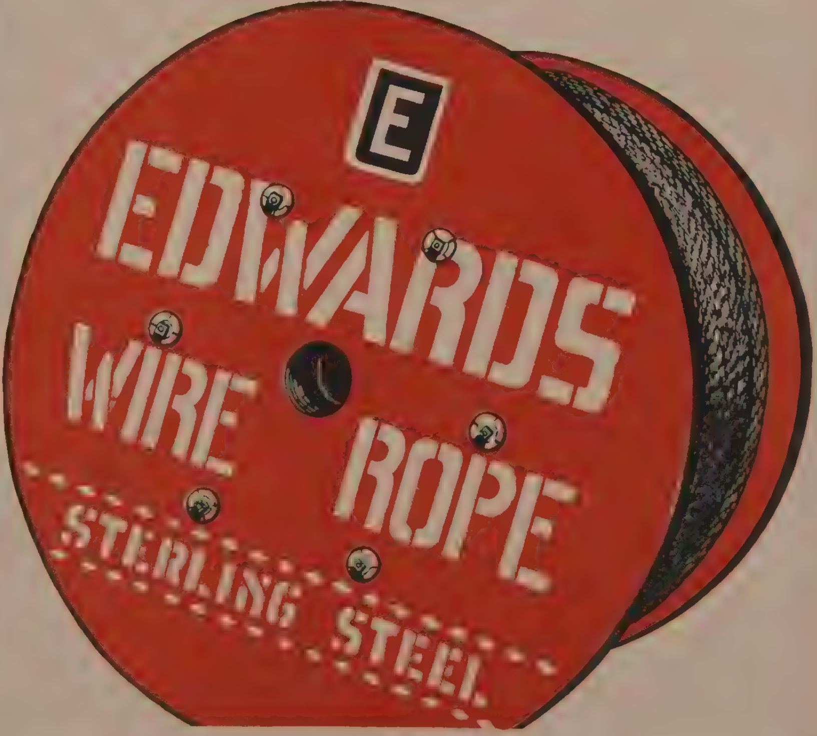
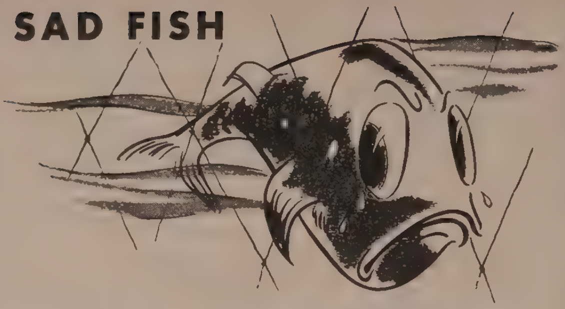

E
EDWARDS
WIRE ROPE
STERLING STEEL

▸ SAD FISH



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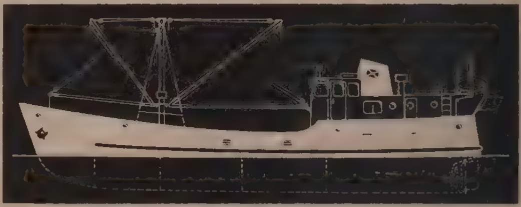

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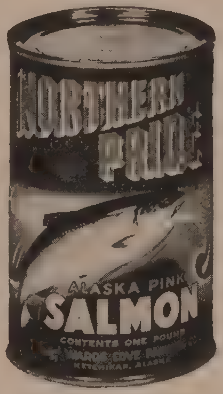
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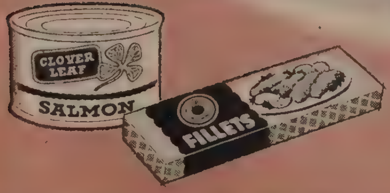
Variety and volume of fishery products produced and marketed by British Columbia Packers Limited is testimony to its great experience and achievement in this field.



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Vancouver, B.C., Canada

6893-1

STANDARD ENGINEER'S FIELD REPORT

PRODUCT **RPM DELO OIL**

APPLICATION **M. V. Giuseppe-Maria**
San Francisco, Calif.

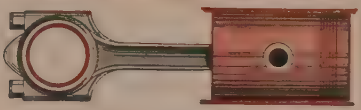
13 years on RPM DELO without major overhaul

GIUSEPPE-MARIA

Using RPM DELO Oil, M. V. Giuseppe-Maria's 110-hp Atlas marine diesel engine has run more than 80,000 hours without major overhaul. When engine recently was torn down for routine, periodic inspection, crankshaft showed no measurable wear, rod and main bearings were returned to service. Only piston rings, which showed normal wear, were replaced. "Rings were free and clear of carbon...so were other engine parts...and piston sleeves were unscored," reports Skipper Anthony Cresci. "She looked like new inside." 58-foot vessel hauls up to 50 tons of rock cod, flounder and other flat fish from operations along 160-mile stretch of California coast, averaging 520 hours running time monthly.

Skipper and owner Anthony Cresci (right) points to oil pressure gauge which registers a steady 25 lb. psi at normal and high speeds and 15 lb. psi while idling, indicating excellent condition of Atlas Marine Diesel. Says Mr. Cresci: "We've used nothing but RPM DELO in this engine since it was new, 13 years ago. We feel DELO is the best possible oil to use in this type of service, and the condition of the engine proves we are right." The Cresci family has used Standard products aboard their fishing boats since 1919.

Why RPM DELO Oils reduce wear—prolong engine life



- Metal-adhesion qualities keep oil on engine parts, running or idle
- Anti-oxidant resists formation of lacquer
- Detergent keeps parts clean
- Special compounds prevent corrosion of bearing metal
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For More Information contact your Standard Engineer or Representative, or write 225 Bush Street, San Francisco 20, California.

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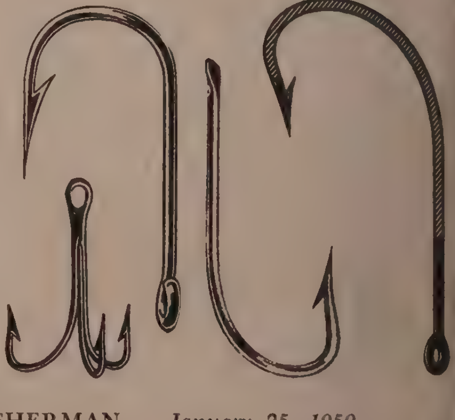

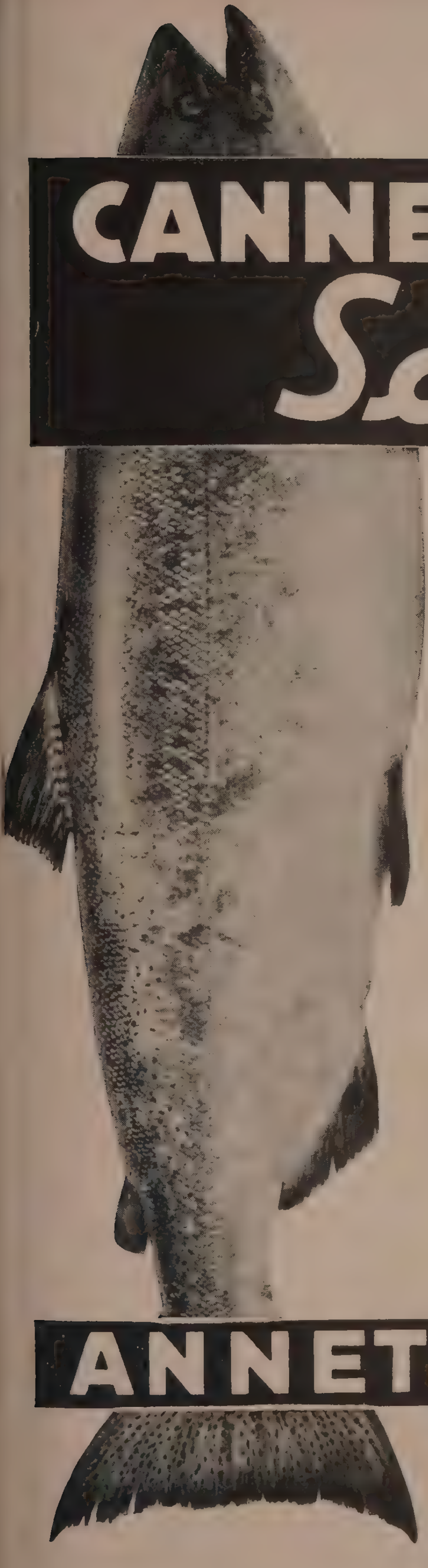

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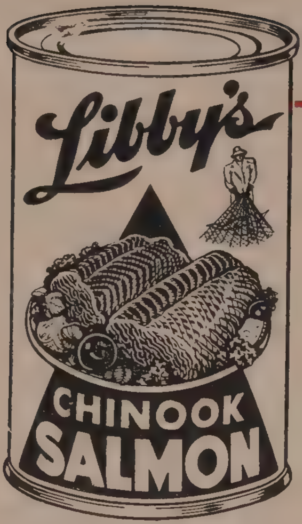
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When you think of SALMON
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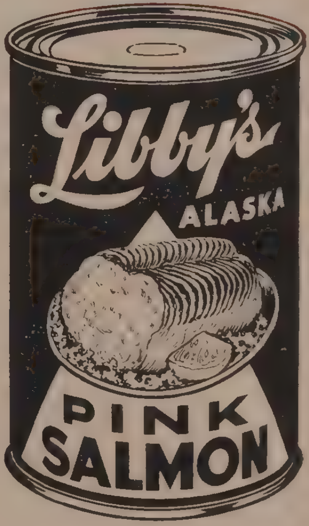
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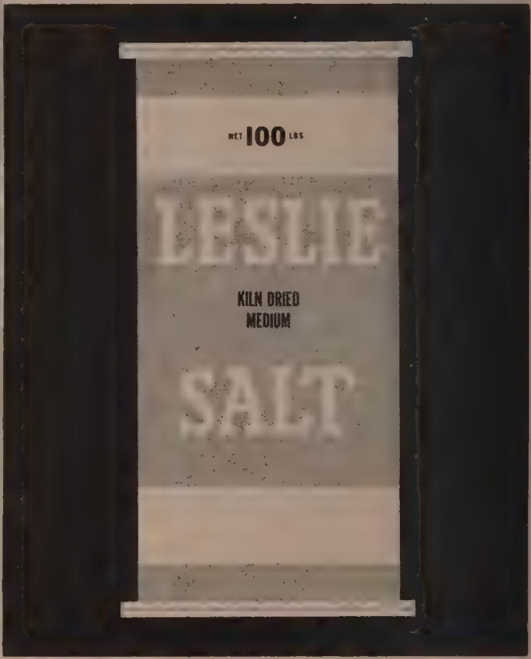

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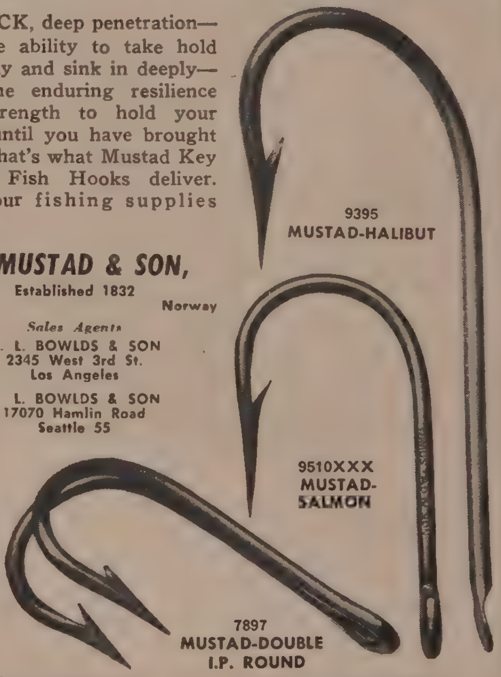

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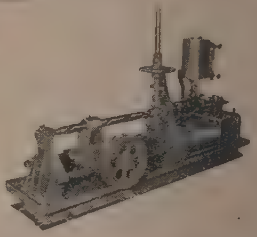

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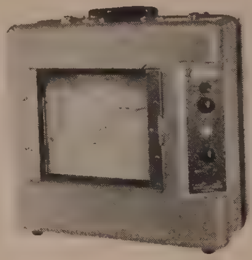

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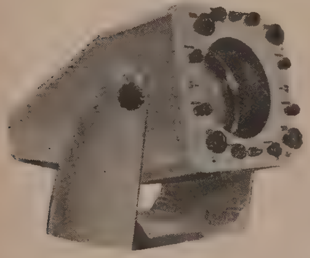

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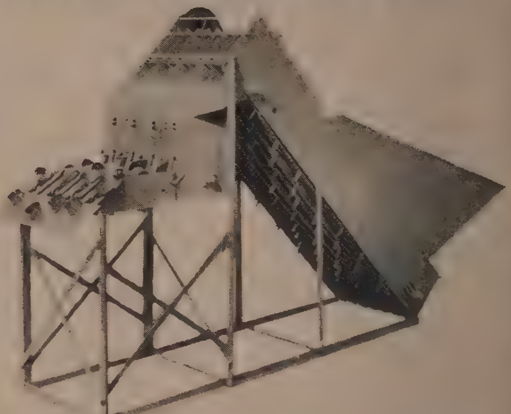

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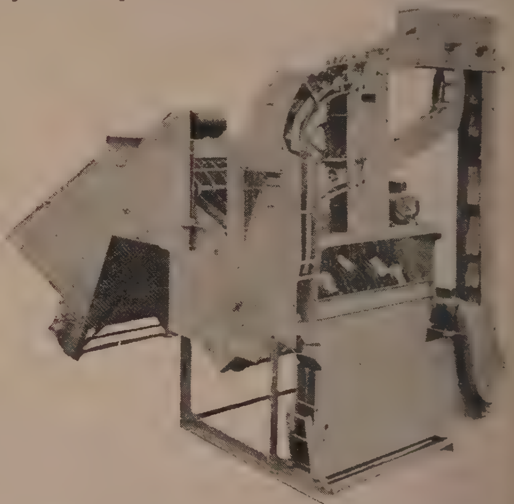

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Capacity 500 cans per minute. Over-all dimensions 11′ long, 5′ wide, 5′ high.

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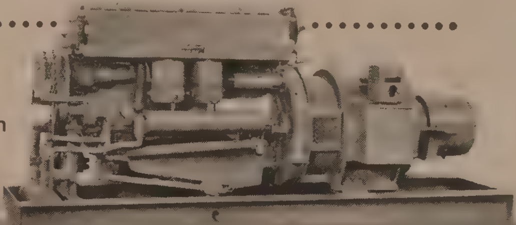
National Steel & Shipbuilding Co., of San Diego, has again equipped a new tuna clipper with Murphy Diesel Auxiliary power. In the 127-ft. "Mary Barbara", as in her sister ships, each of her two 191 HP (continuous) Murphy Diesels drives a 125 KW generator.

On a ship like the "Mary Barbara", which can cruise 6000 miles and averages a trip every 72 days to her South American fishing grounds, *dependable* power for refrigeration and other electrical equipment is vital. Selection of Murphy Diesel Generator Sets for 11 NASSCO clippers proves Murphy reliability and trouble-free performance.

When you need economical power for auxiliary service or main propulsion, see your Murphy Diesel Dealer for power you can depend on.



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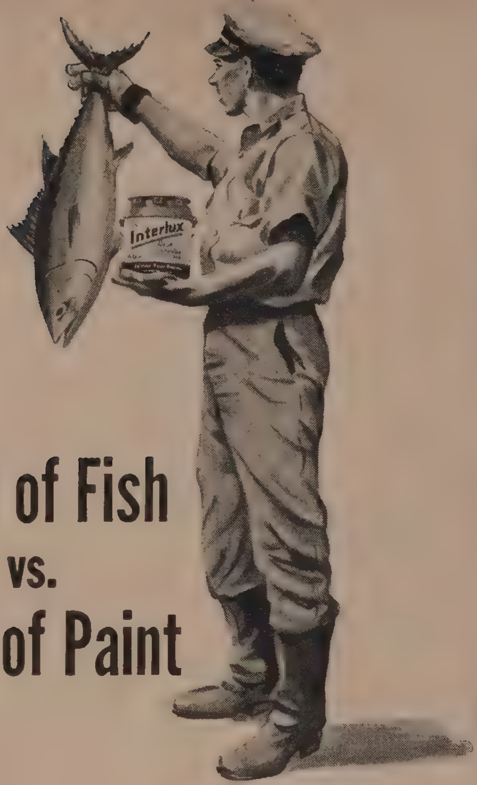

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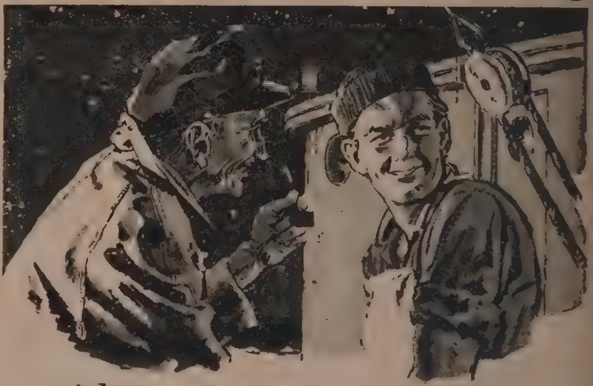

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Complete maneuverability for pleasure craft, fishing boats, harbor craft or work boats with engines up to 300 h.p. at 2,000 RPM. Also available with reduction gear 1½:1; 3:1; 3½:1; 4:1; 4½:1; 5:1; 5½:1; 6:1.

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Here is the newest in hydraulically controlled marine gears. World famous for smooth, dependable control, instant response and longer service life. A compact unit, the 2HE features finger-touch control with full forward and full reverse. Can be used on gas engines to 250 h.p. at 4000 RPM and diesel engines 150 h.p. at 3000 RPM. Also available with reduction gear 1½:1; 2:1; 2½:1; 3:1; 4:1.

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Capacity 500 h.p. at 1000 RPM. Reduction ratios of 2:1; 2½:1; 3:1; 3.75:1.

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Model SL2. 2 cyl. *8¼ HP @ 1800 RPM. Only 28" high, 25" wide
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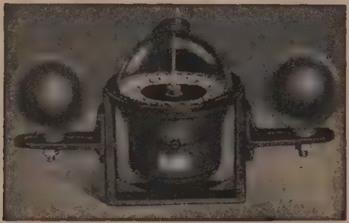

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MORE DEPTH PER $
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TEXACO
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PRODUCTS

New Fishermen's Co-op plant brings

DEEP-FREEZE STORAGE 250 MILES CLOSER FOR OREGON COAST FLEETS

'lant offers new high in convenience — including Texaco products and services at fuel dock

To cut short the 250-mile haul from Oregon-coast fishng grounds to fish receiving stations in Washington, the Fishermen's Cooperative Assn., Seattle, has built a new 200,000 plant at Charleston, Oregon—with moorage or 190 permanent boats and 100 more transients.

New facilities include a sharp-freeze room that can andle 25,000 pounds of fish a day, and four zeroemperature storage rooms with a combined capacity of 50,000 pounds. The plant's ice machine is one of the argest in the area. It can produce 80,000 pounds of lake ice a day and load it—at the rate of 625 pounds minute—directly into boats at the dock

exaco plays a big part in making this new plant tops n convenience for fishermen. Texaco's marine outlet s accessible to even the largest boats in the fleet. It's pen 24 hours a day and has ample supplies of the Texaco fuels and lubricants specifically designed to keep oats running their best under all conditions.

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CATERPILLAR

Now! A new marine gear to deliver Cat D397's full available power

Caterpillar now offers and manufactures a new marine gear matched to the Cat D397 Marine Engine. This gear was designed by a well-known leader in the marine gear industry specifically for manufacture by Caterpillar Tractor Co.

Now the new Cat-made No. 3181 Marine Gear, used with the D397 (Series D) Diesel Engine, assures you of an all-Cat marine power plant—*one* source of responsibility, *one* manufacturer backing the warranty. Here are other important advantages.

1. It takes *all* the horsepower the engine will produce at the flywheel, delivering maximum usable power to the propellers.

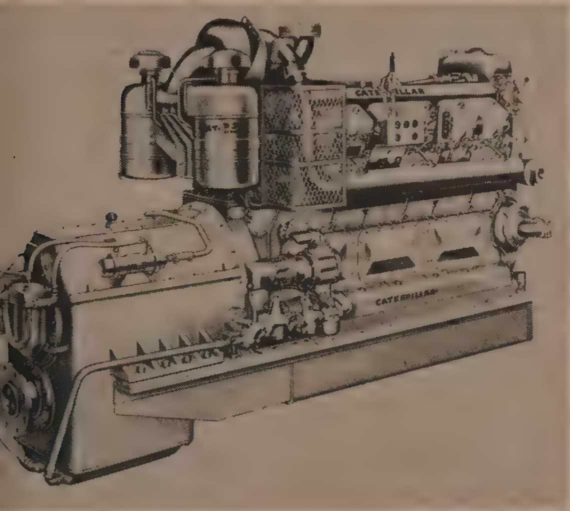
2. It was designed with reserve capacity at a new, lower price with *you* in mind.

3. It was field tested for more than 4,000 hours in the towboat *Iron City* operating on the Ohio River during 1957.

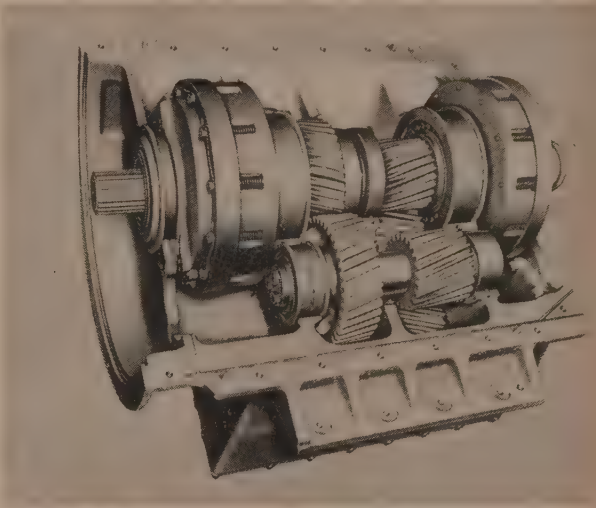
4. It is designed for equally long life when operating with either right- or left-hand propellers regardless of engine rotation — full power for reversing over indefinite periods.

5. Standard 3.68:1, 2.40:1, 3.03:1 and 4.38:1 gear ratios are available. And the No. 3181 is equipped with hydraulically actuated and lubricated forward and reverse clutches for finger-tip control.

For more information about Cat's new *complete* engine-gear package, phone your nearby Caterpillar Dealer. Also, send for the free booklet, "Full Power All the Way," which describes the new Cat No. 3181 Marine Gear in more detail. Address your inquiries to Marine Dept., Engine Division.



Shown with the new Cat No. 3181 Marine Gear is this Caterpillar D397 (Series D) Marine Engine rated at 500 continuous HP at 1,225 RPM. This complete power package made by Cat means fewer problems for you.

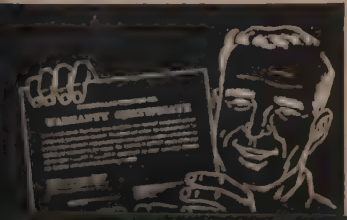


The No. 3181 Marine Gear shown with top half of housing lifted, to allow removal of gears and clutches without detaching gear from the flywheel housing — or interfering with alignment.

Engine Division, Caterpillar Tractor Co., Peoria, Ill., U.S.A.

Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

Caterpillar builds the No. 3181 Marine Gear at its Peoria, Illinois, Engine Plant—warrants the complete power package.



The Caterpillar Dealer Engine Specialist knows marine power problems. He's backed by skilled factory-trained servicemen and well-stocked parts depots.

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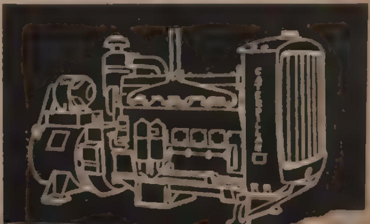
Caterpillar Electric Sets for marine auxiliary power are dependable, easy to operate and need little electrical equipment.



ELECTRIC PLANT
NEWS

Salmon boat Yankee specifies Onan Diesel plant for radar

The *Yankee*, together with two other purse-seiners of the same design built by Bellingham Shipyards Company, are Onan Electric Plant-equipped. The Onan plant is Model 3DSP-1R, a single-cylinder, air-cooled Diesel engine powered unit of 3,000 watts capacity, 115 volts, 60-cycle. This reliable unit meets the rigid demands of radar service for continuous operation, uniform voltage and utmost dependability. Air-cooling eliminates plumbing problems, simplifies installation. Extra-large bearings, Stellite-faced exhaust valve, solid Stellite valve seat insert and rugged construction assure long service. When you replace your electric plant or buy a new craft, specify an Onan "fleet proved" electric plant.

Compact, quiet, smooth operating

Photo at left shows the *Yankee* installation. The model shown, like all Onan generating plants, has engine and generator direct-connected. No belts or couplings to cause trouble. Alignment is permanent; vibration reduced. The Onan-built generator is specially insulated for all-climate use.

The Onan 3KW Diesel is available for 24, 32, or 110-volt battery charging; in 115, 230, or 115/230-volt A.C. models; and a 115-volt A.C. -32-volt D.C. combination unit. Onan gasoline-powered battery chargers range from 500 to 1500 watts. Other air-cooled A.C. models with Vacu-Flo cooling for below-deck installation, range from 500 to 10,000 watts. Belt-driven generators from 1,000 to 5,000 watts.

See your Onan distributor or write for information

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- Adams Linen and Nylon Locknot Salmon Gill Netting.
- Adams Nylon Single Knot Salmon Gill Netting.
- Adams Linen and Nylon Salmon Mending Twine.
- Adams Cotton Netting.
- Adams Nylon Seine Netting.
- Dyak Netting.
- Nyak Netting.
- Knox's Knotless Nylon Netting.
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Buy them from your favorite Marine Supply House or Ship Repair Yard when you haul out. Large west coast stocks, popular sizes. Factory stock to 11½-inch shaft size available overnight by air.

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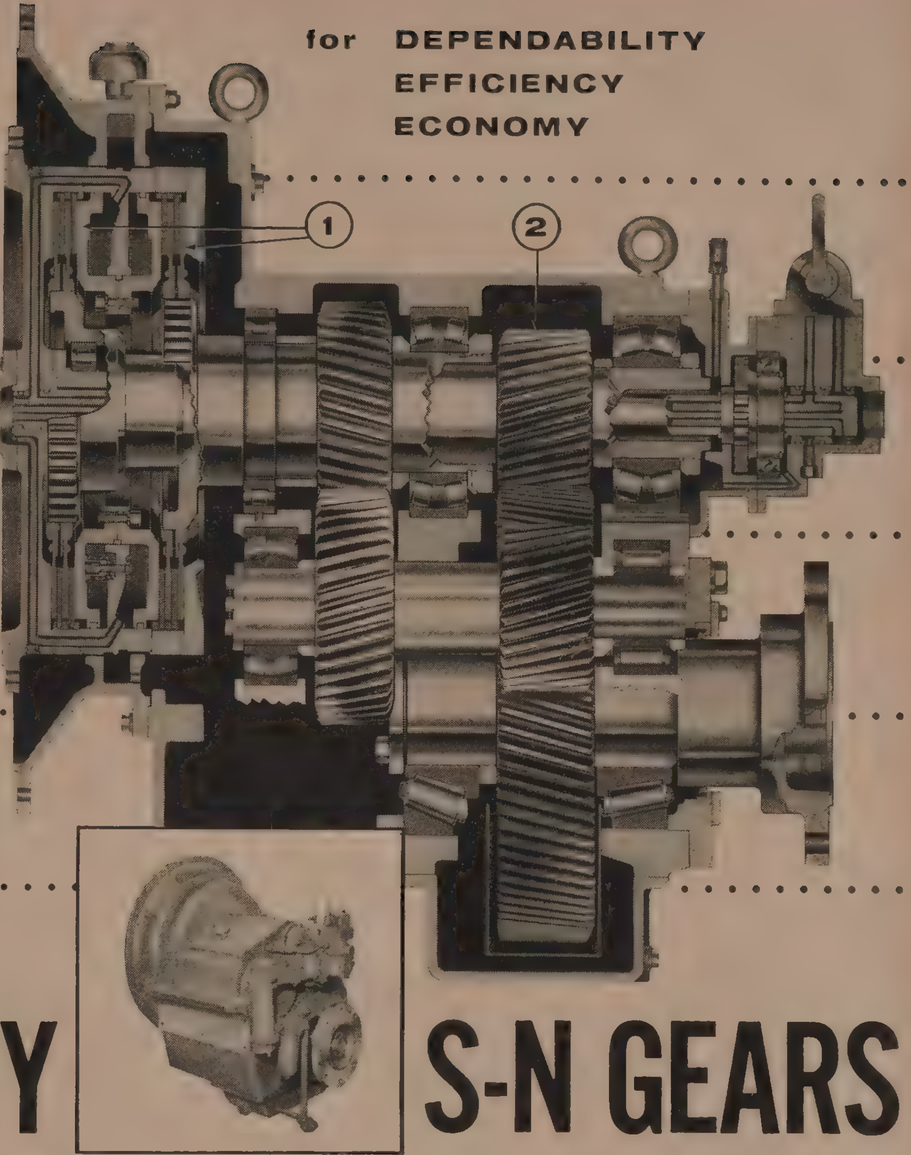

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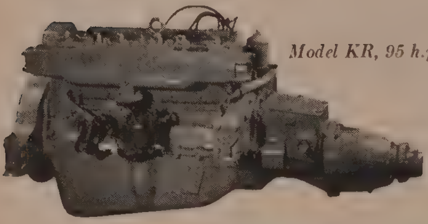

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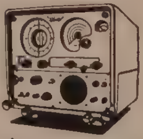

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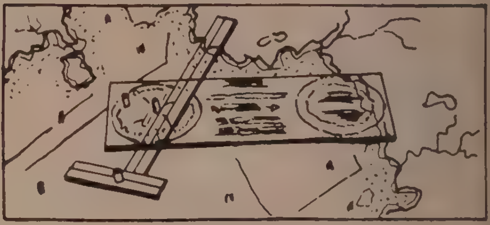

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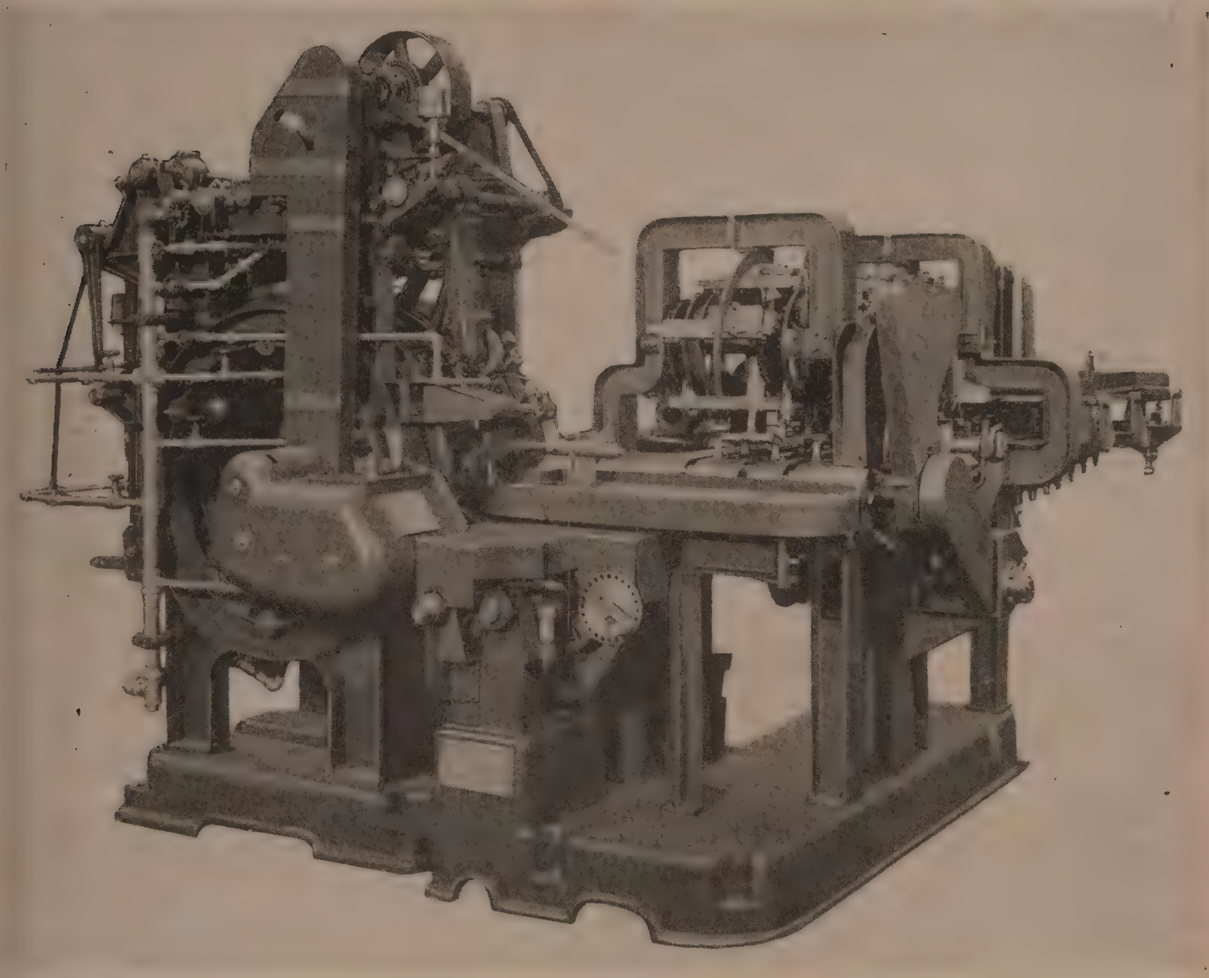

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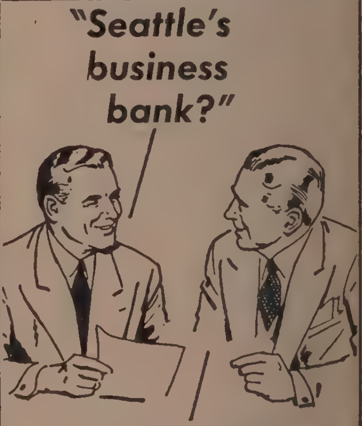
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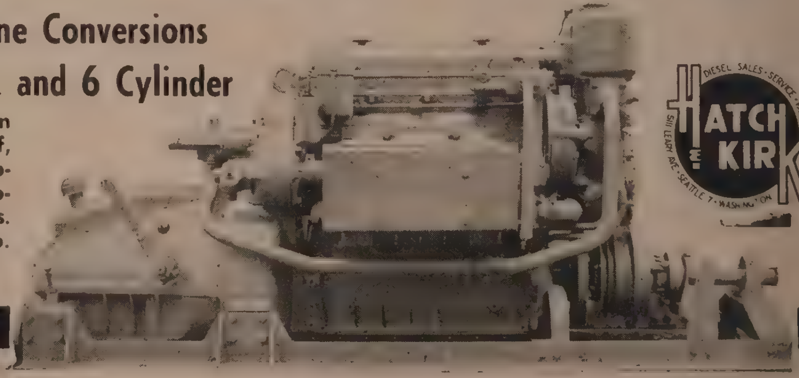

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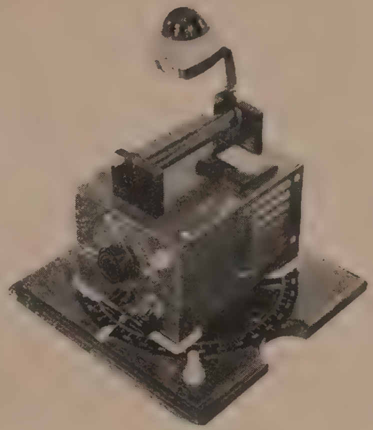

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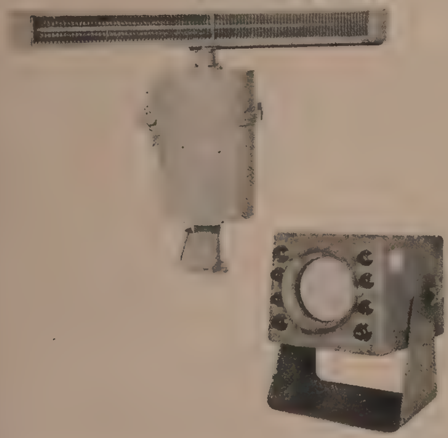

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H. A. Dunlop

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(Data as of Jan. 1, 1959)

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Statistics Branch, 342 11th St., Astoria, Oregon—Fishery Marketing Specialist, Edward E. Poysky.

Statistics Branch, Pier 42, South, Seattle 4, Wash. — Fishery Marketing Specialist, F. M. Wood.

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Biological Laboratory, P. O. Box 271, La Jolla, California—Chief, John C. Marr.

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Fishery Research Station, 101 Seaside Ave., Terminal Island, Calif. — C. J. Carlson.

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(Data as of Jan. 1, 1959)

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(Data as of Jan. 1, 1959)

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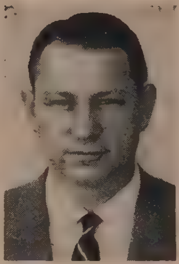
Willapa Harbor Oystermen's Association, Bay Center, Washington.


Ray Lemoi

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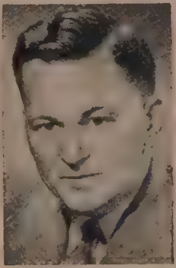
B. G. Johnston


H. A. Christenson

Fishing Vessel Owners' Association of British Columbia, 193 E. Hastings St., Vancouver, B. C. — President, George A. Brajcich; Secretary - Manager, Harold A. Christenson.

Fishermen's Cooperative Association, Fishermen's Wharf, Berth 73, San Pedro, Calif.—President, Matt Simundich.

Alaska Trollers Association, Box 696, Ketchikan, Alaska — President, J. B. Cotant.

Einar Pedersen

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(Data as of Jan. 1, 1959)

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L. Goulart

Monterey Fishermen's Association, Monterey, Calif. — President, Leonard Goulart; Secretary - Treasurer, Ernest Martins.

Monterey Purse Seiners Association, 9 Municipal Wharf, Monterey, Calif.—Secretary, Horace Balbo.

Northwest Trawlers Association, Inc., Fishermen's Terminal, Seattle 99, Washington — President, Dan Luketa.

Pacific Coast Clam Packers Association, 508 Colman Building, Seattle, Wash.

Melvin Wick

Off-shore Fishing Vessel Owners Association, P. O. Box 838, 101 Ninth St., Astoria, Ore. — President, Melvin T. Wick; Vice-President, Ira Ludtke; Treasurer, Sverre Koppen.

Petersburg Fishing Vessel Owners Co-operative, Petersburg, Alaska — President, Erling Strand; Secretary, Vernon A. Counter.

V. A. Counter

K. F. Harding

Prince Rupert Fishermen's Co-operative Association, P. O. Box 340, Prince Rupert, B. C.—President, Carl Giske; Secretary & Manager, K. F. Harding.

Prince Rupert Fishing Vessel Owners' Association, 221 1st Street, Prince Rupert, B. C.—President, Berry York; Secretary, M. H. Waters.

George Cuculich

Purse Seine Vessel Owners Association, 5301 North Ruby St., Tacoma, Wash.—President, George Cuculich; Secretary, Nick Mladinich.

Puget Sound Gillnetters Association, 3417 Broadway Ave., Everett, Wash.—Executive Secretary, Kay Granmore.

Nic Cordileone

San Diego Commercial Fishing Boat Owners, Inc., 4904 N. Harbor Drive, San Diego, Calif. — President, Nic Cordileone; Secretary - Treasurer, Wm. H. Walters.

San Francisco Crab Boat Owners Association, 2907 Jones St., San Francisco, Calif.—President, Dominic Battaglia; Secretary-Treasurer, Albert Spadaro.

San Francisco Sardine Association, Pier 92, San Francisco 11, Calif. — President, John Costanza; Secretary-Treasurer, George J. Christo.

Southern California Fishermen's Association, 418 Harbor Lane, San Diego, Calif. — President, Victor Nigro; Vice - President, Jimmie Nigro; Secretary-Treasurer, Louis V. Nigro.

Victor Nigro

Tuna Boat Owners Association, 1125-A Ala Moana Blvd., Honolulu 14, Hawaii—President, Gerald S. Hashimoto; Vice-Pres., David Correa; Sec.-Treas., Shoichi Okumoto; Manager, William A. Kanakanui.

G. H. Schuler

Washington Reef Net Owners Association, Lummi Island, Wash. —President, Bruce Lintz; Executive Secretary, Glenn H. Schuler.

DIRECTORY

Pacific Fisheries Organizations

(Data as of Jan. 1, 1959)

UNIONS

Geo. Johansen

Alaska Fishermen's Union, 84 Union St., Seattle, Wash. — Secretary - Treasurer, George Johansen.

Oscar Ericksen

Alaska Fishermen's Union, Ketchikan Branch, LIU 1821, AFL-CIO, P. O. Box 1685, Ketchikan, Alaska — Business Agent, Oscar Ericksen.

Alaska Fishermen's Union, Bellingham Branch, Luther Building, P. O. Box 186, Bellingham, Wash.—Agent, Jack Wood.

Alaska Salmon Purse Seiners Union, Wrangell, Alaska.

Cordova District Fisheries Union (Independent), Box 939, Cordova, Alaska—Executive Secretary, Richard Janson, Jr.

Wm. Westerholm

Columbia River Fishermen's Protective Union, 322 10th St., Astoria, Ore. — Executive Secretary, William Westerholm.

Deep Sea Fishermen's Federal Union of B. C., Prince Rupert, B. C. —President, Hilmar Mork; Secretary, W. H .Brett.

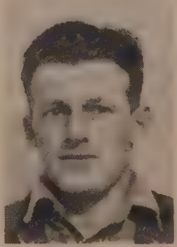
Fishermen's Union (Independent), P. O. Box 825, Fort Bragg, California.

Copper River & Prince William Sound Cannery Workers Union (Independent), P. O. Box 939, Cordova, Alaska—Secretary-Treasurer, Richard Janson, Jr.

Deep Sea Fishermen's Union of the Pacific, 5215 Ballard Ave., Seattle, Wash.—Secretary-Treasurer, Clarence R. Nordahl; Seattle Agt., Chris Skodje (pro tem).

Paul E. Graves

Otter Trawlers Union, Box 983, Astoria, Ore. — President, Aldrich Veuhkola; Vice-President, Arthur L. Anderson; Secretary - Treasurer, Paul E. Graves.



Ott Rutzer

Shoalwater Bay Oyster Workers Union, Local No. 14, SIU, AFL-CIO, Nahcotta, Wash. — Secretary, Ott Rutzer.

Thomas Ivey

Fish Cannery Workers Union of the Pacific, 450 Seaside Ave., Terminal Island, Calif. — President, Thomas Ivey.

Cannery Workers and Fishermen's Union of San Diego, 640 State St., San Diego 1, Calif. — President, Geo. Ledesma; Secretary-Treasurer, Lester Balinger.

Chinook Cannery Workers' Union, Local No. 12, Chinook, Wash.—Secretary, Mrs. Lucille Couch.

Crab and Codfish Workers' Union, 2505 First Ave., No. 5, Sailors Union Bldg., Seattle, Wash.—Secretary, C. G. Dahlbeck.

Fish Plant Workers of Newport, Oregon — Secretary-Business Agent, Lola Attridge.

Puget Sound Cannery Workers' Union, 1405 9th St., Anacortes, Wash. — Secretary-Treasurer, Mrs. Bernice Babarovich.

Alaska Fish Cannery Workers' Union of the Pacific, 217 First Ave. S., Seattle, Wash. — Business Agent, Carlos de los Santos.

Fish Cannery Workers' Union of the Pacific, Monterey County, 320 Hoffman Ave., Monterey, Calif. — Business Agent, Lester Caveny; Secretary-Treasurer, Roy Humbracht.

George Issel

Fish Cannery Workers' and Fishermen's Union of the Pacific, San Francisco and Moss Landing Bay Areas, 467 12th Street, Richmond, Calif. — Secretary - Treasurer, George Issel, San Francisco Branch, 16th and Capp Sts.

United Cannery Workers of Kodiak Island, AFL-CIO, SIU, P. O. Box 1035, Kodiak, Alaska — President, Harry Lindgren; Secretary-Treasurer, Kimball Poland.

W. Hendrickson

Grays Harbor Gillnetters Union, 1718 Sumner Ave., Aberdeen, Wash. — Chairman, Eldon Lapacek; Secretary-Treasurer, Walfred Hendrickson; Board Chairman, Andy Niemi.

Pacific Fisheries Organizations

(Data as of Jan. 1, 1959)

Fisheries Division, International Longshoremen's and Warehousemen's Union (Independent), 150 Golden Gate Avenue, San Francisco 2, Calif. —Regional Offices, Southern California: Director, F. I. Moore, 350 N. Avalon Bldg., Los Angeles, Calif.; Northern California: Director, William Chester, 150 Golden Gate Ave., San Francisco, Calif.; Northwest and Alaska: Director, William Gettings, 84 Union St., Seattle, Wash.

Local 3—Secretary, Joe Jurich, 84 Union Street, Seattle 1, Washington.

Local 20—Secretary, Rose Wilson, Van Camp Cannery Workers, 1201 Harbor Drive, San Diego, Calif.

Local 30—Secretary, John E. Rahm, Box 379, Ketchikan, Alaska.

Local 33—Secretary, John J. Royal, 339 West 7th St., San Pedro, Calif.

Local 37—Secretary, Matias L. Lagunilla, Alaska Cannery Workers, 213 Main St., Seattle 4, Wash.

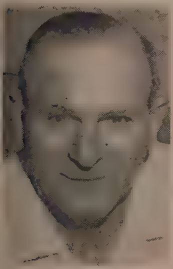
Local 83, P. O. Box 603, Pelican, Alaska.

Local 85, P. O. Box 483, Petersburg, Alaska.

Local 86, P. O. Box 782, Sitka, Alaska.

Local 87, P. O. Box 768, Wrangell, Alaska.

Hawaii, 451 Atkinson Dr., Honolulu.



John Hawk

Seafarers' International Union of North America, AFL-CIO (Headquarters), 450 Harrison St., San Francisco, Calif. — Secretary - Treasurer, John Hawk.

Alaska Marine District Union of Fishermen, Cannery Workers and Allied Trades, AFL-CIO, 832-A, Water Street, Ketchikan, Alaska—Executive Secretary-Treasurer, S. M. Ogden.

Bering Sea Fishermen's Union, SIU-AFL, Dillingham, Bristol Bay, Alaska —Secretary-Treasurer, Jim Downey.

Seine and Line Fishermen's Union, Monterey County, AFL-CIO, 233 Alvarado St., Monterey, Calif.—Business Agent, John Crivello.

Seine & Line Fishermen's Union of San Pedro, SIU-CIO, 261 West 7th St., San Pedro, Calif.—Business Agent-Secretary, John Calise.

United Fishermen of Kodiak, Alaska, AFL-CIO, SIU, P. O. Box 1035, Kodiak, Alaska — President, Harry Lindgren; Secretary-Treasurer, Kimball Poland.

Yakutat Marine District Union, SIU-AFL-CIO, Yakutat, Alaska—Secretary, John G. Williams.

Jim Downey

Bristol Bay Cannery Workers, Local 46, SIU, AFL-CIO, Dillingham, Bristol Bay, Alaska — Business Agent, Jim Downey.

United Fishermen and Allied Workers' Union, 138 E. Cordova St., Vancouver 4, B. C. — President, H. (Steve) Stavenes; Secretary, Homer Stevens; Business Agent, Alex Gordon; Northern Representative, R. L. Gardiner, Metropole Hall, 3rd Ave., Prince Rupert, B. C.

H. (Steve) Stavenes

Vancouver Fishermen's Local — Business Agent, M. J. Canic, 138 E. Cordova.

Vancouver Shoreworkers Local — Jack Cook, 1932 W. 6th.

Steveston Fishermen's Local — Jim Ross, Box 308.

Steveston Shoreworkers Local—Ted Foort, 138 E. Cordova.

Victorial Local—F. J. Smele, 1852 Chestnut St.

New Westminster Local — Harold Wilcox, 138 E. Cordova.

Annieville Local—Leo Larsen, 9751 116th St., North Surrey.

Sundbury Local — Hideo Onotera, 8655 River Road, Rt. 1, New Westminster.

Ladner Local—Nick Spilchen, Ladner.

Woodwards Slough Local — Jack Hill, 947 Finn Rd., Rt. 3, Richmond.

Fort Langley Local—E. Burnell, Rt. 5, Langley Prairie.

Albion Local—Tarmo Puska, Websters Corners.

Nanaimo Local — F. W. Meabry, 1630 Waddington.

Gulf Islands Local — Kaye Bell, Chemainus, B. C.

Quathiaski Local — Jack Hewison, Rt. 1, Campbell River.

Pender Harbour Local—R. O. Lee, Madeira Park, B. C.

Westview Local — Carl Miettenen, Lund.

Namu Local—Alan Young, Namu.

Skidegate Local—Ed Ragnery.

Sointula Local—Bill Mackie, Sointula.

Alert Bay Local—Gordon McNeil, Alert Bay.

Bella Coola Local—I. P. Melkild.

Sidney Local — Jack Reid, Swartz Bay Rd., Sidney, B. C.

Gibsons Local—Del Triggs.

Masset Local—Bill Duffus.

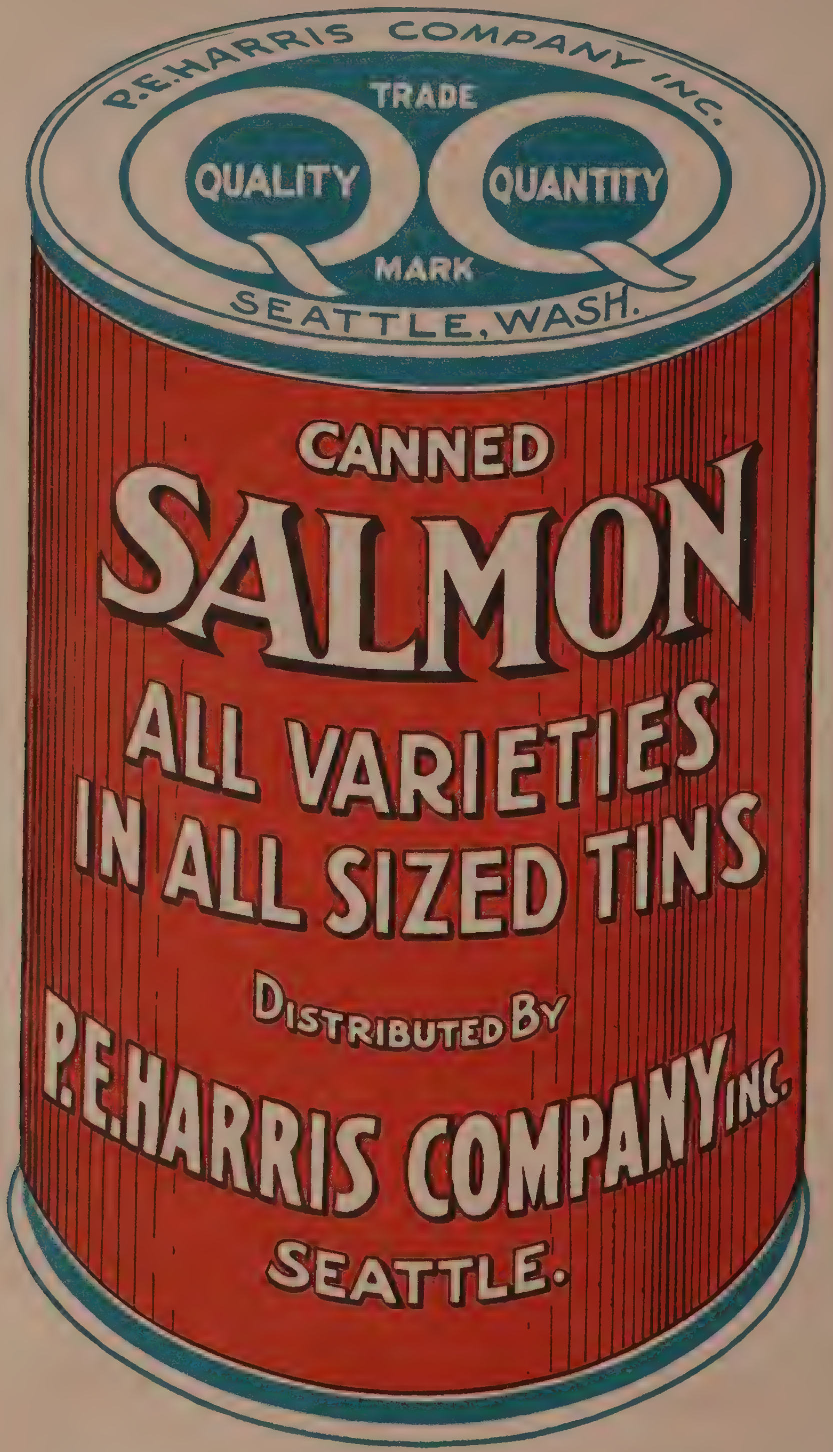
Bella Bella Local—Al Newman.

Sooke Local—Pat Maddigan, Sooke, B. C.

Alaska Fishermen's Union, LIU 1821, *AFL-CIO*, 49 Clay Street, San Francisco 11, California.

Alaska Fishermen's Union, LIU 1821, *AFL-CIO*, P. O. Box 74, Seldovia, Alaska.

Alaska Fishermen's Union, LIU 1821, *AFL-CIO*, 200 Governor Building, Portland, Oregon.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1958

a Year of Surprise In Pacific Salmon Canning

- Red salmon abundance ranged in 1958 from the smallest run in history to Bristol Bay, up to the largest run since 1913 to the Fraser River.

Pink salmon appeared all unannounced on the Nushagak River in Bristol Bay and in Prince William Sound. Save for these surprising runs, Pinks were scarce.

Fortune was fickle, but British Columbia reached the peak of prosperity with the richest return ever known.

Western Alaska, which has borne the heaviest brunt of high seas fishing's effect, suffered severely from the effect of former years' drain on juvenile fish which came to maturity in 1958; although it must be conceded that Japanese high seas fishing in 1958 was moderated so far as its effect upon American-origin Red salmon were concerned.

Alaska's overall pack was up from the year before, but still short of the 10-year average.

Value of North American canned salmon production rose to $151,690,000, with Canada's share aobve $56,740,000.

- Alaska's salmon pack, taken as a whole, reached 2,948,000 million full cases in 1958, above a half-million better than in the previous season.

The sharp decline in Reds, however, tended to pull the value down. Western Alaska, with only 433,121 cases pack—of which only 278,434 were Reds—was the weak spot. Only the Nushagak had even fair fishing, and its surprising pack of more than 60,000 cases of Pinks was all that saved 1958 from pressing 1951 for post-war low.

Central Alaska, supported by the Prince William Sound surprise in Pinks, showed up well, with its 1,343,000 cases above the 10-year average.

Southeastern Alaska also squeezed out a narrow margin over the average, but it must be recognized that the average of the last decade is a long way below the longer-term mean for each of these districts.

1958 Pacific Canned Salmon Packs and Values

DISTRICT	RED, SOCKEYE or BLUEBACK		PINK		CHUM		SILVER or COHO		KING or CHINOOK & STEELHEAD		TOTAL	
	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value
Alaska	490,343	$15,150,773	1,556,048	$33,379,578	754,688	$12,630,370	98,993	$2,846,042	48,299	$1,489,107	2,948,371	$ 65,495,870
Washington	433,575	19,944,450	1,565	32,865	150,625	2,560,625	37,305	1,156,455	17,586	716,320	640,656	24,410,715
Oregon	27,912	1,283,952	---	---	5,056	87,271	9,287	365,758	75,224	3,300,544	117,479	5,037,525
California	---	---	---	--	---	---	---	-	130	5,980	130	5,980
TOTAL U.S.A.	951,830	36,379,175	1,557,613	33,412,443	910,369	15,278,266	145,585	4,368,255	141,239	5,511,951	3,706,636	94,950,090
British Columbia	1,079,155	39,928,725	455,518	9,338,119	229,292	3,439,380	132,403	3,707,284	11,688	327,264	1,908,056	56,740,772
GRAND TOTAL	2,030,985	$76,307,900	2,013,131	$42,750,562	1,139,661	$18,717,646	277,988	$8,075,539	152,927	$5,839,215	5,614,692	$151,690,862

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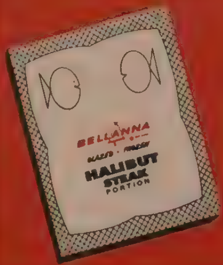
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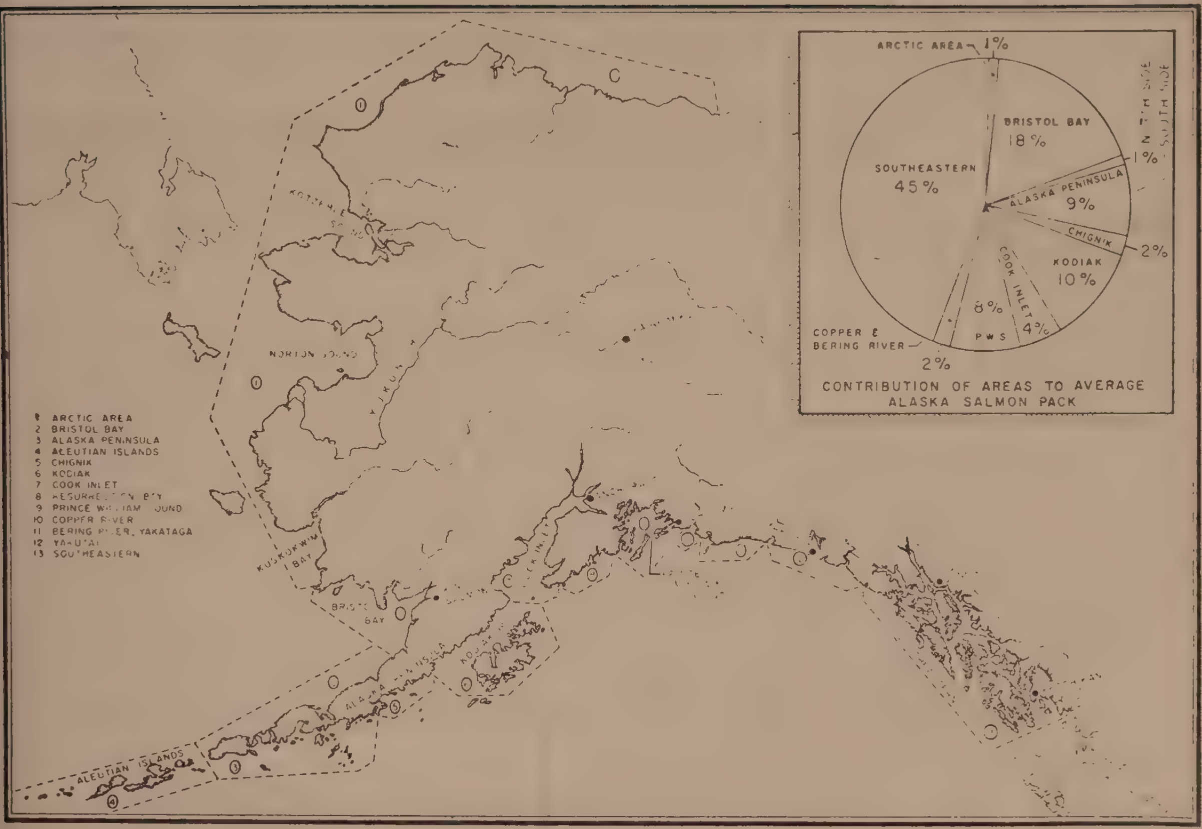
ARCTIC AREA 1%
BRISTOL BAY 18%
SOUTHEASTERN 45%
1%
NORTH SIDE
SOUTH SIDE
ALASKA PENINSULA 9%
CHIGNIK 2%
KODIAK 10%
COOK INLET 4%
8%
PWS
COPPER & BERING RIVER 2%
CONTRIBUTION OF AREAS TO AVERAGE ALASKA SALMON PACK
1 ARCTIC AREA
2 BRISTOL BAY
3 ALASKA PENINSULA
4 ALEUTIAN ISLANDS
5 CHIGNIK
6 KODIAK
7 COOK INLET
8 RESURRECTION BAY
9 PRINCE WILLIAM SOUND
10 COPPER RIVER
11 BERING RIVER, YAKATAGA
12 YAKUTAT
13 SOUTHEASTERN
NORTON SOUND
KUSKOKWIM BAY
BRISTOL BAY
ALEUTIAN ISLANDS
ALASKA PENINSULA
KODIAK

MAJOR REGULATORY DISTRICTS IN ALASKA

Beside the surprises due to varying abundance of salmon, the stringency in Western Alaska saw the virtual extinction—for the one year at least—of the freezership phase of that fishery.

Shore operators concluded operating arrangements with the freezership people under which the freezers' boats were fished for the shore plants, which thus obtained an interest in some of the packs.

This adjustment served to ease the market situation by eliminating goods priced of necessity below the going level for standard goods. At the same time it affected a considerable operating economy in a year when cost-cutting was as vital as ever in the history of Alaska's salmon business.

● The year which saw Alaska attain statehood saw the salmon industry in an up-turn trend by narrow margin, but facing most serious problems.

Whether the new state will enter upon its full authority over its fisheries in the first full year of its statehood is to be doubted; but as this Yearbook went to press salmon traps, one of the mainstays of Alaska salmon production, were under death sentence pronounced for 1959 by Secretary of the Interior Seaton. There was a possibility that the sentence might be blocked, but it appeared probable that in any event traps would make a sharply reduced contribution to the pack of 1959—if indeed they make any at all.

1958 Pink Salmon Showed Some Surprising Strength

● Pink salmon pack of more than a million and a half cases brought the total Alaska canned salmon pack for 1958 up to almost three million cases—20% over the 1957 production. The number of fishermen employed remained at substantially the same level in 1958 as in 1957.

Areawise, the waters of Southeastern Alaska, particularly those at the south end of Stephens Passage and east and west of Ketchikan, produced the greatest volume of Pink salmon. The pack of nearly 700,000 cases was the best since 1951.

1958 PACIFIC CANNED SALMON PACK

(Figures reduced to uniform basis of 48-lb. cases.)

Species	Alaska	Puget Sound	Columbia River	Coastal Areas	Total U.S.	British Columbia	GRAND TOTAL
Red or Sockeye	490,343	430,423	30,231	833	951,830	1,079,155	2,030,985
Pink	1,556,048	1,565	---	---	1,557,613	455,518	2,013,131
Chum or Keta	754,688	144,173	6,375	5,133	910,369	229,292	1,139,661
Coho or Silver	98,993	36,728	9,857	7	145,585	132,403	277,988
Chinook or King	48,299	2,178	83,749	717	134,943	10,475	145,418
Steelhead	---	---	6,296	---	6,296	1,213	7,509
TOTAL	2,948,371	615,067	136,508	6,690	3,706,636	1,908,056	5,614,692

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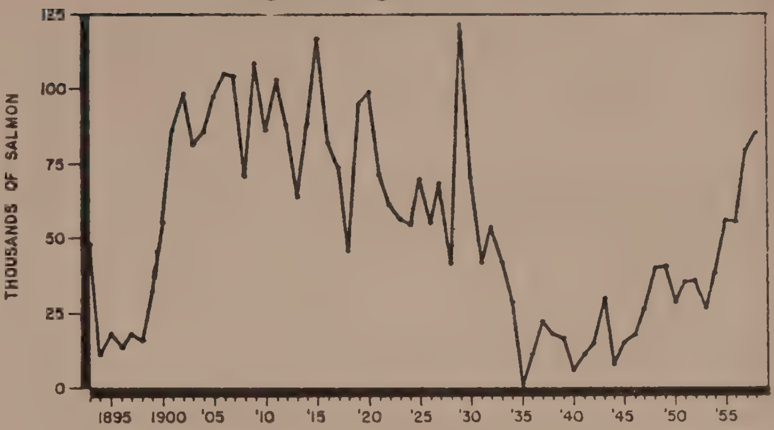
Prince William Sound had an outstanding Pink salmon fishery in 1958, producing 300,000 cases for its best record in 10 years.

Runs into the Susitna, Nushagak, and Unalakleet Rivers were unprecedentedly heavy, and a late Pink salmon run appeared at Unalaska for the first time since 1954 and added much to the production of canneries in the South Peninsula region. In general, the Pink salmon runs tended to appear in volume relatively early in the respective seasons and to decline sharply by the time the late runs should normally have appeared. Information is not at hand that would indicate whether or not this was the result of recent general increases in ocean temperature.

Nushagak King Salmon Catch



● Unlike Pink salmon, Red salmon, which normally make up one-third of the pack, were low in production in all areas and comprised only 16% of the total pack. This decrease can be accounted for principally in the Bristol Bay area where the catch was a little more than half of last year, and in Cook Inlet where the pack of 44,000 cases proved to be one-third of the average for the past several years.

Chum salmon maintained their status in the annual pack figures and, in addition were well above their average size, a characteristic that prevailed in all five species of salmon this year.

An unexpected development in the King salmon fishery was the mild-curing of some 10,000 of this species at Port Moller prior to the opening of the Red salmon season. In addition, the June King salmon fishery on the Nushagak was very successful.

In late July and early August a fleet of trollers discovered good fishing for both large King and Coho salmon near Middleton Island. This extends the present westward limit of the offshore commercial trolling area.

Floating canneries and freezers all

UNITED STATES CANNED SALMON PACK

YEAR	Red or Sockeye	Pink	Chum or Keta	Med. Red Coho or Silverside	King or Chinook	Steelhead	GRAND TOTAL	YEAR
1916	2,217,259	1,755,433	1,260,131	529,096	579,615	19,013	6,360,547	1916
1917	2,908,995	3,432,573	1,173,040	431,160	597,704	23,937	8,567,409	1917
1918	2,711,251	2,425,500	1,677,416	647,020	589,786	25,170	8,076,143	1918
1919	1,338,401	2,079,775	1,995,446	593,192	664,844	19,899	6,630,347	1919
1920	1,541,286	1,618,103	1,090,103	251,533	586,749	13,659	5,101,705	1920
1921	1,870,396	845,184	288,539	238,595	369,756	10,142	3,622,612	1921
1922	2,181,197	1,659,781	650,079	491,643	313,992	24,983	5,231,675	1922
1923	1,974,495	2,930,985	702,536	415,084	362,660	25,997	6,411,757	1923
1924	1,533,237	2,619,013	1,266,654	418,336	378,218	29,862	6,245,320	1924
1925	1,187,784	2,659,144	1,214,304	477,159	481,071	14,859	6,034,321	1925
1926	2,218,638	3,334,787	1,067,053	429,942	408,136	33,128	7,491,684	1926
1927	1,430,116	1,993,679	656,911	459,209	481,914	31,643	5,053,472	1927
1928	2,010,956	2,791,061	1,302,422	445,496	335,907	16,605	6,902,447	1928
1929	1,819,469	3,298,127	1,115,924	367,847	358,085	24,104	6,983,556	1929
1930	1,232,340	3,154,364	683,451	566,250	390,756	16,932	6,044,093	1930
1931	1,792,111	3,684,092	615,441	285,930	390,563	12,355	6,780,492	1931
1932	2,200,104	2,118,250	1,006,776	257,735	318,770	13,218	5,914,853	1932
1933	2,321,784	2,726,783	727,917	243,055	323,176	18,027	6,360,742	1933
1934	2,876,981	3,825,989	849,721	371,521	322,968	14,901	8,361,990	1934
1935	882,408	3,624,148	893,612	364,625	257,773	14,888	6,037,454	1935
1936	2,553,160	4,590,422	1,249,188	287,224	283,941	19,282	8,983,217	1936
1937	2,168,528	3,947,271	786,397	236,708	369,725	17,568	7,526,197	1937
1938	2,677,723	3,222,559	845,433	294,257	218,989	15,248	7,274,209	1938
1939	2,020,200	2,791,790	668,274	227,143	238,827	25,293	5,971,527	1939
1940	1,040,241	2,910,972	919,368	375,668	269,217	33,436	5,548,902	1940
1941	1,308,740	4,790,573	851,902	440,653	372,624	33,162	7,797,654	1941
1942	1,194,985	2,819,501	1,089,555	406,032	320,531	21,911	5,852,515	1942
1943	2,004,204	2,384,186	895,265	191,135	185,340	16,261	5,676,391	1943
1944	1,618,729	2,087,621	987,382	202,364	203,761	19,222	5,119,079	1944
1945	1,227,162	2,549,848	693,803	239,086	181,367	19,314	4,910,580	1945
1946	1,350,629	2,060,243	694,728	217,004	222,744	17,767	4,563,115	1946
1947	1,911,284	2,363,069	666,497	293,058	356,665	22,091	5,612,664	1947
1948	1,734,091	1,308,689	1,054,637	370,610	338,037	20,362	4,826,426	1948
1949	1,075,427	3,236,317	718,878	277,495	207,868	8,931	5,524,916	1949
1950	1,290,249	1,097,811	1,317,761	352,126	205,981	10,534	4,274,462	1950
1951	936,120	2,001,352	981,524	466,880	244,832	14,862	4,645,570	1951
1952	1,413,670	1,175,054	1,290,667	397,534	159,086	19,011	4,455,022	1952
1953	1,162,614	1,396,388	966,418	207,144	158,437	19,645	3,910,646	1953
1954	1,323,830	1,151,126	1,329,756	215,123	129,933	13,379	4,163,147	1954
1955	749,328	1,682,000	466,353	198,806	176,661	13,737	3,361,885	1955
1956	1,182,554	1,129,346	758,059	188,571	165,957	8,171	3,432,658	1956
1957	963,566	943,564	924,543	203,553	142,066	7,605	3,184,897	1957
1958	951,830	1,557,613	910,369	145,585	134,943	6,296	3,706,636	1958
10 Yr. AVERAGE	1,104,919	1,537,057	966,433	265,282	172,576	12,218	4,065,937	10 Yr. AVERAGE

NOTE - Figures represent full cases of 48-lbs. net. Figures for the last year shown are from PACIFIC FISHERMAN's compilation; those for previous years have been revised from official data. "Average" is for the last ten years.

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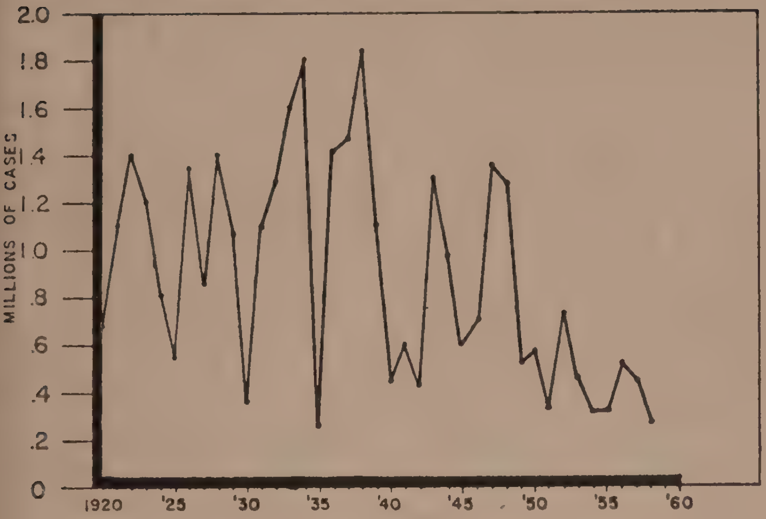
SALMON
WESTERN ALASKA

Bristol Bay Red Salmon Packs



but disappeared from the scene in 1958, their interests being frequently consolidated with shore plants. Tenders with chilled brine tanks are playing an expanding role in the industry, owing to their ability to hold small quantities of fish over long periods of time so that full loads can be made up.

1959 Prospects Not Bright

- The overall outlook for 1959 is for a smaller pack. The Alaska-wide weakness of the odd-year Pink salmon runs will probably be reflected in the cyclic return, and Bristol Bay Red salmon are not expected in volume greater than the season just experienced.

BRISTOL BAY

- Two days fishing per week for a 4½-week season was the restriction imposed on Bristol Bay operations during the 1958 season in an effort to provide escapement sufficient to maintain the run in the face of the heavy exploitation of this salmon resource by the Japanese high seas expeditions.

Despite this strict limitation, the escapement to Bristol Bay streams was counted as only about 2.5 million fish.

In order to achieve red salmon escapement necessary to conserve the runs, the number of fishing days per week during the season are regulated by the amount of gear that is fished. Management of the fisheries in the major river districts is based on daily reports of escapement and catch per unit of effort (the average daily catch of a two-man boat calculated each fishing period). All other combinations of gear are equated to this unit by applying computed gear equivalents. During the 1958 season, the amount of gear fishing was such that it permitted only about two days fishing per week.

Escapements were enumerated from counting towers on the Ugashik, Egegik, Naknek, Igushik, and Branch Rivers by B. C. F. personnel, and on the Wood and Kvichak Rivers by biologists of the Fisheries Research Institute.

Preliminary Red salmon catch and escapement estimates for four Bristol Bay regulatory areas in 1958 are as follows:

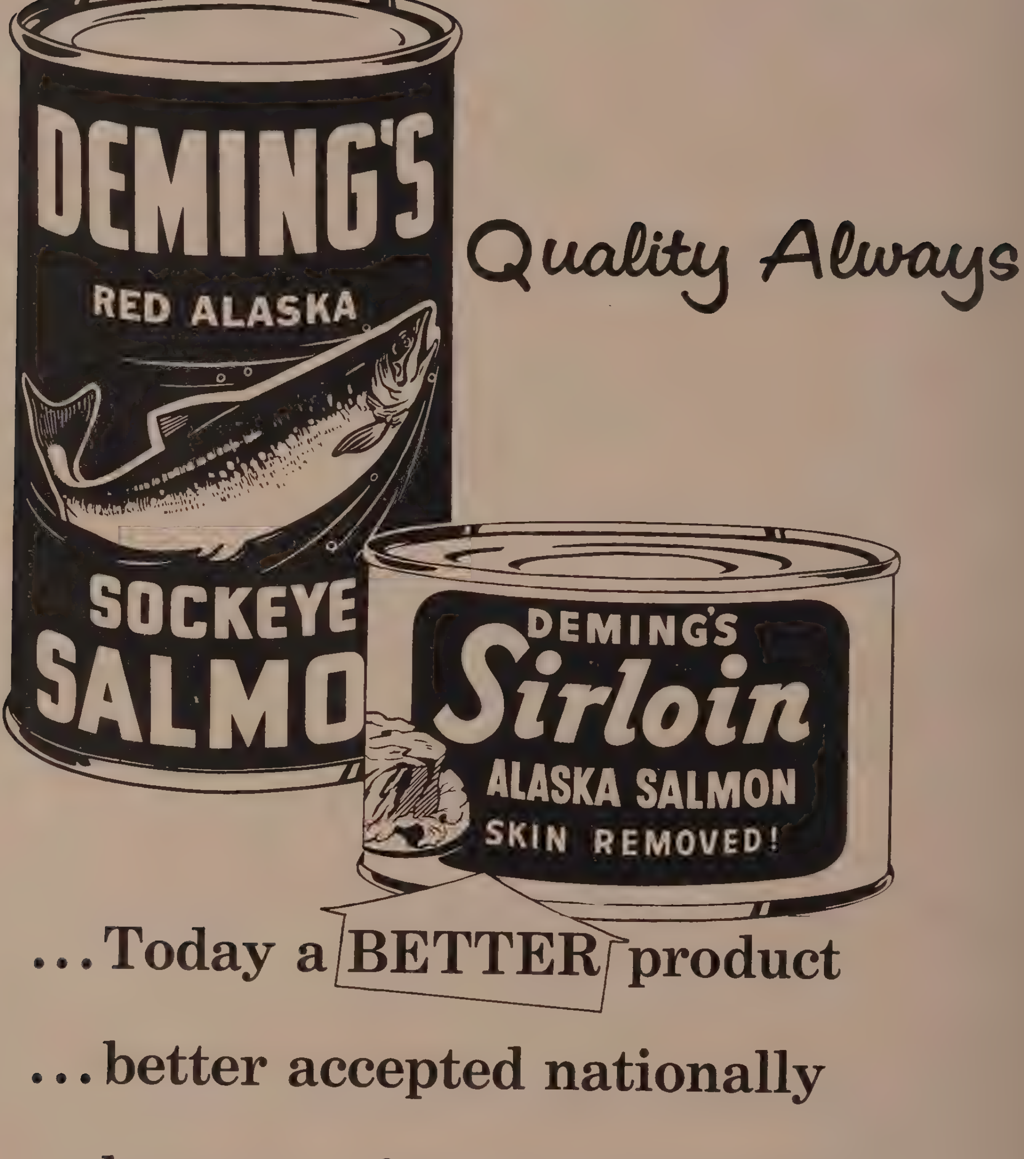
	Catch	*Escapement*
Nushagak	1,091,000	1,105,000
Naknek-Kvichak	923,000	878,000
Egegik	501,000	246,000
Ugashik	434,000	295,000
Total	2,949,000	2,524,000

In addition, a catch of about 36,000 Red salmon was taken from the Togiak District. Adverse weather conditions made it difficult to estimate the escapement in that area. How-

WESTERN ALASKA CANNED SALMON PACKS

BRISTOL BAY AND YUKON (Cases)							ALASKA PENINSULA, NORTH SIDE (Cases)						
Reds	Pinks	Chums	Cohoes	Kings	TOTAL	YEAR	Reds	Pinks	Chums	Cohoes	Kings	TOTAL	GRAND TOTAL
1,588,008	.....	24,559	1,456	9,197	1,623,220	1933	26,665	.....	1,490	.....	284	28,439	1,651,659
1,726,769	1,959	32,222	1,219	8,580	1,770,759	1934	87,379	.....	974	.....	217	88,570	1,859,329
231,014	.....	6,995	223	660	238,892	1935	34,920	4	2,862	.....	175	37,961	276,853
1,388,776	30,773	25,045	1,571	4,992	1,450,257	1936	38,930	293	1,511	.....	214	40,948	1,491,205
1,421,369	.....	29,286	138	6,897	1,457,690	1937	55,315	1	6,170	.....	234	61,720	1,519,410
1,772,885	.....	54,551	345	5,446	1,833,227	1938	73,942	.....	5,063	.....	1,053	80,058	1,913,285
1,059,181	.....	88,272	.....	5,038	1,152,491	1939	56,310	2	6,478	.....	465	63,255	1,215,746
402,899	16,081	30,624	1,445	3,504	454,553	1940	56,158	.....	4,914	.....	79	61,151	515,704
577,024	9	50,901	3,436	5,785	637,155	1941	36,366	95	4,953	.....	179	41,593	678,748
438,053	8,564	16,749	2,638	7,001	473,005	1942	.....	.....	.....	.....	.....	.....	473,005
1,275,212	.....	37,757	180	11,826	1,324,975	1943	39,330	54	3,680	.....	56	43,120	1,368,095
954,694	3,911	31,838	2,408	5,420	998,271	1944	31,849	130	12,855	.....	21	44,855	1,043,126
576,318	.....	66,888	3,105	9,478	655,789	1945	32,342	127	25,007	.....	22	57,498	723,287
628,240	4,073	36,436	2,663	10,768	682,180	1946	27,821	.....	1,798	.....	167	29,786	711,966
1,335,031	.....	35,802	1,866	13,737	1,386,436	1947	25,675	.....	6,047	8	71	31,801	1,418,237
1,212,233	3,148	64,167	4,140	13,576	1,297,264	1948	65,961	101	17,474	1,220	310	85,066	1,382,330
525,309	.....	33,345	2,214	13,795	574,663	1949	10,612	.....	2,954	2,349	179	16,094	590,757
577,158	1,607	16,588	2,840	13,217	611,410	1950	10,335	2	18,294	4,098	158	32,887	654,162
309,936	.....	15,744	4,366	15,086	345,132	1951	29,656	75	9,777	3,637	242	43,387	388,519
715,083	1,339	31,457	1,661	19,236	768,776	1952	14,477	.....	7,379	6,031	123	28,010	796,786
443,137	1	36,921	78	20,319	500,456	1953	17,391	1,175	9,157	3,301	396	31,420	531,876
307,469	4,441	31,694	1,630	8,453	353,687	1954	12,352	5,103	7,308	3,387	510	28,660	382,347
313,962	.....	20,413	998	13,187	348,560	1955	20,508	91	2,266	550	474	23,889	372,449
531,100	3,913	24,178	4,139	9,357	572,683	1956	48,661	.....	6,530	258	547	55,996	628,679
464,306	.....	23,982	4,053	26,695	521,036	1957	20,192	2	7,160	1,025	455	28,834	549,870
242,440	62,229	35,088	10,583	24,836	375,176	1958	36,694	7	9,618	2,443	1,412	50,174	440,199
442,990	7,354	26,941	3,255	16,618	497,158	Aver.	22,088	937	8,044	2,708	450	33,935	533,564

NOTE. Figures are based on U.S. Fish & Wildlife Service final data, which DO NOT include fish caught in these areas and canned elsewhere, and accordingly are somewhat different from those in other tables compiled independently by PACIFIC FISHERMAN. Figures for the latest year shown are preliminary. "Average" figures are for last ten years. Bristol Bay totals and Grand totals include fish packed in Yukon-Kuskokwim district.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BRISTOL BAY SALMON
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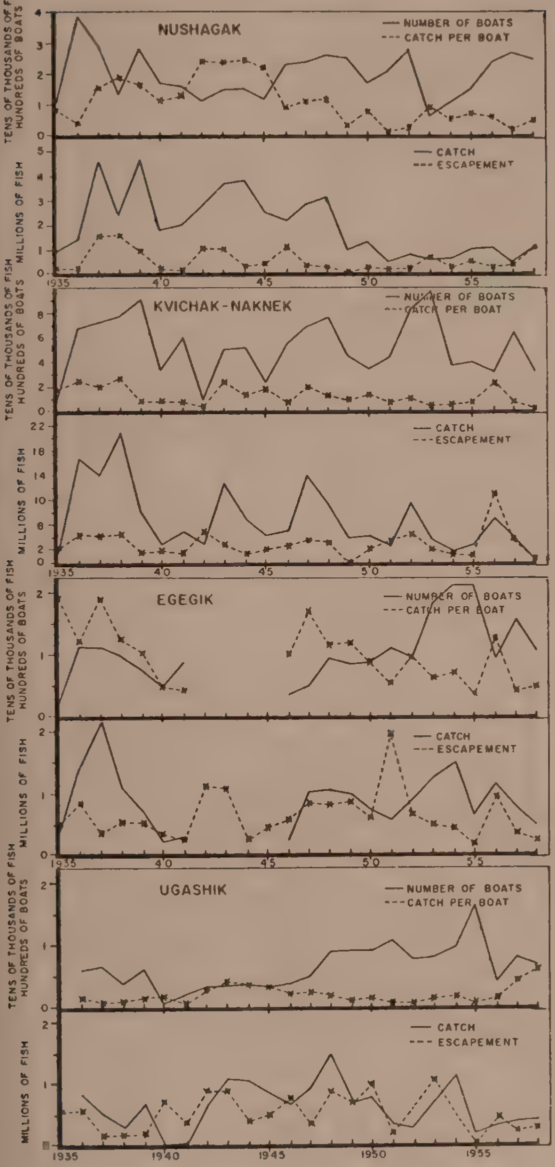

ever, a late survey indicated an escapement of about 70,000 fish.

- The estimated 1958 total run of about 5½ million Red salmon was below expectations, and the overall outlook indicates no improvement in 1959, according to the U. S. B. C. F. analysis.

It is expected that the total run to the Naknek-Kvichak District will be between 1 and 3 million fish. A study of past escapement figures and of information that is available on 1956 and 1957 smolt outmigrations for the Egegik and Ugashik systems points to runs of fewer than 1 million Red salmon to each of these districts.

For the Nushagak system there are more data on which to base forecasts of returning runs. General escapement figures alone, however, indicate that the Red salmon run to the Nushagak River in 1959 should be at least as good as the run in 1958.

This year's Nashagak King salmon catch of 85,219 fish was the highest on record since 1929. To offset rising effort and maintain adequate escapement, fishing time was curtailed to four days a week during the Nushagak King salmon season. Also, gill net depth was standardized at 28 meshes to prevent use of overly deep nets.

- An unexpected bonus on the Nushagak fishery was the abundance of Pink salmon during and after the latter part of the Red salmon season.

Approximately 60,000 cases of Pink salmon were packed, and at least 800,000 fish spawned upstream in the Nushagak and Nuyakuk Rivers. Because of the selectivity of gill nets, the catch consisted predominantly of large males, which averaged 16 fish per case. Preliminary stream checks indicate that about 75 per cent of the spawners were female. Canneries report that the quality of the Pink salmon was exceptionally good.

Research activity in Bristol Bay was carried out by both the Bureau of Commercial Fisheries and the Fisheries Research Institute. The Institute continued with its industry-sponsored work on the Wood and Nushagak Rivers. Principal emphasis in these studies was placed on enumerating upstream migrants, determining indices of smolt outmigration abundance, and studying the early life history of the Red salmon.

Yukon River and Arctic

- North of Bristol Bay the only commercial fishing of significance is a gill net fishery for King salmon, which is conducted during June on the lower Yukon River. A quota of 65,000 fish is the maximum allowed by regulation and is shared by several small canneries and salteries. By decree of Congress, no other species of salmon may be commercialized on the Yukon River, even though large runs of Chum and Coho salmon do occur. The aboriginal peoples of the area depend upon salmon and other fish as a fundamental source of food for themselves and their dog teams. It is the policy of the government to grant such subsistence needs the highest priority in the utilization of salmon runs along the northern and western coasts and

RECAPITULATION OF ALASKA CANNED SALMON PACK-1958

DISTRICT	RED or SOCKEYE			PINK			CHUM			MEDIUM RED or COHO			KING or CHINOOK			GRAND TOTAL (CASES)
	1-lb & 4-lb 48-lb net	½-lb & ¼-lb, 48-lb net	Total	1-lb & 4-lb 48-lb net	½-lb & ¼-lb 48-lb net	Total	1-lb & 4-lb 48-lb net	½-lb & ¼-lb 48 lb net	Total	1-lb & 4-lb 48-lb net	½-lb & ¼-lb 48-lb net	Total	1-lb & 4-lb 48-lb net	½-lb & ¼-lb 48-lb net	Total	
Western Alaska	253,694	24,740	278,434	60,190	--	60,190	43,467	--	43,467	12,703	--	12,703	21,138	17,189	38,327	433,121
Central Alaska	87,415	44,381	131,796	750,229	53,015	803,244	342,673	15,808	358,481	36,943	6,420	43,363	4,279	4,949	9,228	1,346,112
Southeast Alaska	55,414	24,699	80,113	599,350	93,264	692,614	332,609	20,131	352,740	30,703	12,224	42,927	744	--	744	1,169,138
TOTAL ALASKA	396,523	93,820	490,343	1,409,769	146,279	1,556,048	718,749	35,939	754,688	80,349	18,644	98,993	26,161	22,138	48,299	2,948,371

Halferty

65th Year

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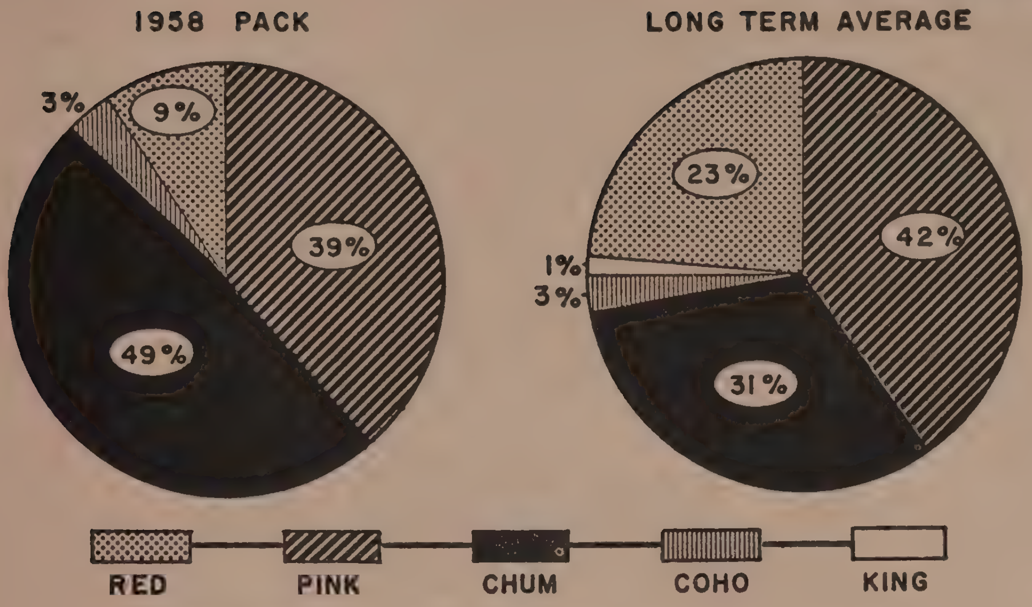

Alaska Peninsula 1958 Pack and Long-Term Average

also in the interior. It is for this reason that the commercial fishery on the lower Yukon is limited to a relatively small quota of King salmon.

Not much is known about the other fisheries of the far north because of their remoteness. The Kuskokwim River has significant runs of all salmon except Pink, while Unalakleet River sporadically produces Pink salmon in abundance. Chum salmon occur in most of the northern streams.

A study has begun on the native personal-use fisheries of the Yukon and Arctic that will provide considerably more knowledge than is now available on the utilization of salmon, as well as other species.

ALASKA PENINSULA

● In the waters off the western extremity of the Alaska mainland, which separates the Pacific Ocean from the Bering Sea, there are several salmon fisheries of varying characteristics. On the south side of the Alaska Peninsula, during June traps and purse seines fish in the vicinity of False Pass, where they intercept Red salmon that are migrating to the Bering Sea and elsewhere. In July and early August the same gear takes Pink salmon that are entering the many small streams tributary to the North Pacific Ocean along the full length of the Peninsula. In some years (e. g. 1954 and 1958) sizable schools of Pink salmon occur on the north side of Unalaska Island in the Aleutian Chain. These also contribute to the pack of Peninsula canneries. A fall run of Chum salmon is dominant in the catch in late August toward the westward between False Pass and Pavlof Bay. "The fishery along the Peninsula and around the Shumagin Islands seems at certain times of the season to intercept not only local salmon but also runs destined for many other places," the B. C. F. analysis concludes.

Both Pink salmon cycles are at a low ebb of abundance on the South Peninsula, where the 1957 Pink salmon pack of 30,811 cases was an all-time low for the Peninsula.

On the north side of the Peninsula, from June to early August sustained runs of Red salmon enter the Bear and Sandy River systems east of Port Moller and Nelson Lagoon west of Port Moller. Several streams in Port Moller proper and in marshy Izembeck Bay produce a limited supply of Chum

BRISTOL BAY SALMON PACKS

(Based on preliminary data, not identical with final figures shown in some other tabulations.)

YEAR	NUSHAGAK	NAKNEK-KVICHAK	EGEGIK	UGASHIK	TOTAL	YEAR
1940	166,208	26,786	16,435	....	450,229	1940
1941	172,835	417,564	29,894	3,555	623,848	1941
1942	196,671	222,281	......	48,239	467,191	1942
1943	282,100	958,144	......	78,110	1,318,354	1943
1944	270,034	588,414	44,113	80,241	982,802	1944
1945	222,738	351,638	......	67,577	641,953	1945
1946	151,216	424,904	22,671	48,534	647,325	1946
1947	220,181	1,015,246	73,422	63,408	1,372,369	1947
1948	262,581	829,407	96,488	127,692	1,316,168	1948
1949	79,173	346,287	84,294	53,266	563,020	1949
1950	115,019	345,587	59,992	65,957	586,555	1950
1951	31,143	239,289	43,590	25,090	339,112	1951
1952	81,720	600,009	52,277	21,594	755,600	1952
1953	36,544	342,266	63,818	45,455	488,083	1953
1954	51,446	149,730	59,872	92,639	353,687	1954
1955	85,573	208,096	39,202	15,689	348,560	1955
1956	106,943	354,560	73,328	37,852	572,683	1956
1957	78,587	336,236	63,330	30,531	508,684	1957
1958	176,690	125 505	36,934	36,047	375,176	1958

NOTE: - The above table covers fish canned in the district; and does not include fish frozen on Bristol Bay and subsequently canned elsewhere.

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PACIFIC SHRIMP

ALASKA KING CRABMEAT

1958-WESTERN ALASKA CANNED SALMON PACK-1958

COMPANY	CANNERY LOCATION	RED			PINK	CHUM	COHO	KING or CHINOOK			GRAND TOTAL (full cases)
		1-lb. Talls (etc.)	½-lb. Flats (8 doz.)	Total (full cases)	1-lb. Talls (etc.)	1-lb. Talls (etc.)	1-lb Talls (etc.)	1-lb Talls	½-lb Flats (8 doz.)	Total (full cases)	
American Packing Co.	Bristol Bay	3 293	----	3,293	5	313	----	35	----	35	3,646
Alaska Packers Association	Egegik	10,990	----	10 990	----	273	----	60	----	60	11,323
	Naknek	17,532	----	17,532	35	1 912	----	248	----	248	19,727
	Nushagak	13 476	----	13 476	10,213	3 249	1,612	4,221	----	4,221	32,771
	Ugashik	25,754	----	25,754	----	883	----	222	----	222	26,859
Arctic Maid Fisheries	Nushagak	1 105	----	1,105	271	241	22	32	----	32	1,671
	Egegik	2,049	----	2,049	----	48	----	10	----	10	2,107
	Naknek	1,815	----	1,815	----	196	----	22	----	22	2 033
Bogler, Henry	Yukon River	---	----	---	----	----	----	* 368	----	368	368
Columbia River Packers Association	Naknek	9 998	----	9 998	54	1 893	----	299	----	299	12,244
	Nushagak	6,737	----	6,737	5 160	1 619	807	2,110	----	2,110	16,433
Egegik Packing Co.	Egegik	8,411	2 159	10,570	----	435	----	102	----	102	11,107
Global Packing Co.	Naknek	2,390	----	2,390	5	261	----	34	----	34	2,690
	Port Moller	7,773	----	7,773	1	1,004	9	68	----	68	8,855
	Ugashik	7 124	1,254	8,378	----	373	----	30	----	30	8,781
P. E. Harris Company	Port Moller	1,229	----	1,229	----	124	----	7	----	7	1,360
Intercoastal Packing Co.	Naknek	3,203	----	3,203	7	348	----	45	----	45	3,603
Libby, McNeill & Libby	Ekuk, Koggiung, Nushagak	33 750	----	33,750	10 232	4 534	1 612	4,412	----	4,412	54,540
Malaspina Fisheries Co.	Naknek	683	----	683	----	101	----	5	----	5	789
Marine Fishing & Packing Company	Naknek	919	----	919	2	100	----	13	----	13	1,034
	Ugashik	1,492	----	1,492	----	66	----	3	----	3	1,561
Nakat Packing Corporation	Naknek	12 349	----	12,349	162	2,372	----	348	----	348	15,231
Naknek Independent Pkg. Co.	Naknek	2,083	----	2,083	1,338	954	422	123	----	123	4,920
New England Fish Co.	Naknek & Nushagak	15,763	----	15,763	7 671	3,053	1,209	3 246	----	3,246	30,942
Northern Commercial Co.	Kwiguk	---	----	---	----	----	----	----	4,517	4,517	4,517
Northern Reefer Co.	Bristol Bay	2,978	----	2,978	4	282	----	24	----	24	3,288
Pacific American Fisheries, Inc.	Naknek, Dillingham & Port Moller	31 030	9,953	40,983	7 677	11,158	3,646	4,549	4	4,553	68,017
Peninsula Packers	Port Moller	2,579	----	2,579	----	390	----	28	----	28	2,997
Queen Fisheries, Inc.	Nushagak	7,778	10,120	17,898	17 190	4,599	3 364	95	4 939	5,034	48,085
Red Salmon Company	Naknek	12 287	----	12 287	163	2 313	----	349	----	349	15,112
St. Mary's Mission	St. Mary's	---	----	---	----	----	----	----	2,013	2,013	2,013
Yukon River Fishermen's Cooperative	Alakanuk	---	----	---	----	----	----	----	5,716	5,716	5,716
TOTAL WESTERN ALASKA		253,694	24 740	278,434	60,190	43 467	12,703	21,138	17,189	38,327	433,121

NOTE:- Minor quantities of Pink, Chum and Coho halves have been included with 1-lb. talls of these species on the basis of full cases of 48 lbs. * 1-lb. flats

salmon in late July and early August. Port Heiden, near the entrance to Bristol Bay, has a production potential in August of several thousand Coho salmon. All fisheries along the Bering Sea Coast of the Peninsula are carried on largely by set and drift gill nets. Some purse seines are also used.

In 1958 Red salmon again failed to appear off False Pass in any quantity, and consequently the Cape Lutke seine fleet catch was poor.

The low Pink salmon pack, 71,074 cases, was substantially bolstered by the unusual catch of 600,000 fish in the Aleutians. This species appeared erratically throughout the South Peninsula and was briefly in fair abundance in the False Pass and Sanak Island areas, which normally are not noted for pink salmon. Showings were poor in the usually populous southeastern and southcentral districts and were only fair in the Shumagin traps. Aerial surveys indicated Pink escapements were below the level of the 1956 cycle.

Prospects for a satisfactory Pink salmon run in 1959 appear unlikely in view of both the poor escapements and the drought conditions that prevailed through early August in 1957.

The Chum salmon run was light throughout the 1958 season. Fall Chum salmon dropped off rapidly after three days of concentrated gear effort following the August 18 opening in the southwestern district. Coho salmon appeared earlier than usual in the fishery and were more numerous in the Chumagin traps catches than for many years.

The Bear River and Sandy River Red salmon runs were quite opposite in character. In the former, a steady seasonal escapement was maintained despite a heavy concentration of gear and reached an estimated 200,000, compared with a total drift and set net catch of approximately 305,000 Red salmon. The Sandy River Red salmon escapement was very poor in comparison with past surveys. Purse seine catches between Bear River and Cape Seniavin were low—approximately 85,000 Red salmon. The weekly allowance of four 12-hour fishing days in the Bear River district was extended after a substantial decrease in gear occurred, to six 12-hour days beginning August 8. Severe weather hampered the remnant fleet however, and catches were negligible.

An experimental mild-cure fishery for early King salmon at Nelson Lagoon, Port Moller, and Bear River produced a surprising 10,000 fish from a small gill net fleet. A late August fishery in Nelson Lagoon yielded a good supply of Coho salmon.

Research biologists conducted a Pink salmon tagging program in the Alaska Peninsula area. The objectives of the 1958 experiments were to determine the origin of the Pink salmon in the catch and the rate of movement of the fish through the fishery. Another purpose was to determine if the easterly migration trend observed during the 1957 tagging program is common to Pink salmon along the entire south coast of the area and if this movement is persistent throughout the season.

A total of 6,958 Pink salmon was tagged between June 23 and August 3 from various locations between False Pass and Ivanof Bay, a 175-mile stretch of coast along the western reaches of the South Alaska Peninsula. In addition to Pink salmon, 968 Chum salmon were tagged at intervals throughout the season. The tagging experiments were conducted from traps and seines and were carried out during open and closed periods.

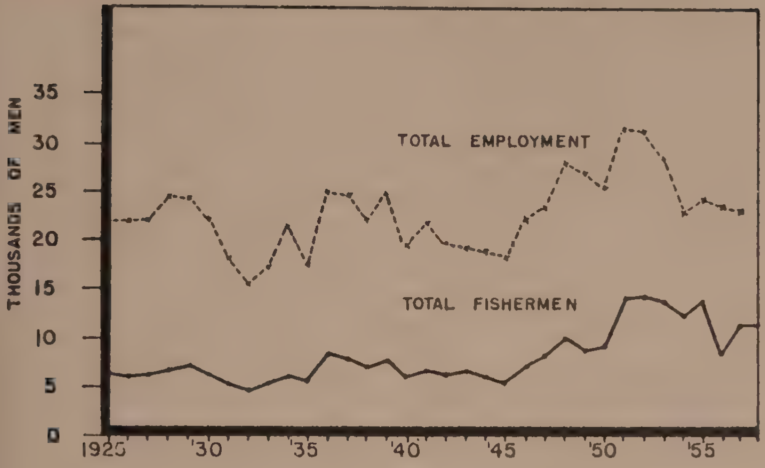
Tag recoveries have been made from such widely separated points as Norton Sound, the Yukon River, Kuskokwim Bay, Nushagak, Unalaska, Chignik, and Kodiak. Analyses will be made later to determine if these various migration patterns can be differentiated on the basis of time or area of tagging.

PACK OF ALASKA CANNED SALMON BY DISTRICTS

Year	SOUTHEAST ALASKA							CENTRAL ALASKA							WESTERN ALASKA									
	Plants Oper.	Red	Pink	Chum	Coho	King	Total Cases	Plants Oper.	Red	Pink	Chum	Coho	King	Total Cases	Plants Oper.	Red	Pink	Chum	Coho	King	Total Cases	Plants Oper.	TOTAL CASES	Year
1905	13	207,375	142,008	37,685	41,079	5,460	433,607	9	345,575	3,235	...	16,518	6,427	371,755	25	1,021,478	23,354	4,287	9,797	30,238	1,089,154	47	1,894,516	1905
1906	20	250,567	326,713	131,405	84,149	2,396	795,230	8	451,659	3,188	...	10,316	7,861	473,024	19	798,504	19,866	123,407	16,278	20,680	978,735	47	2,246,989	1906
1907	22	177,149	542,268	140,392	58,632	1,289	919,730	8	482,968	10,255	...	15,258	14,355	522,836	18	657,687	18,244	44,025	11,784	27,794	759,534	48	2,202,100	1907
1908	23	198,366	592,638	180,204	48,963	2,552	1,022,723	8	377,101	30,661	...	11,543	6,416	425,721	19	1,087,211	20,834	38,309	8,426	14,824	1,169,604	50	2,618,048	1908
1909	19	280,542	455,999	83,001	39,920	857	860,319	8	358,285	5,581	..	10,275	16,913	391,054	18	1,074,667	3,293	37,711	6,361	30,264	1,152,296	45	2,403,669	1909
1910	23	282,265	494,363	231,735	82,620	402	1,091,385	10	364,875	31,797	131	19,928	15,786	432,517	19	825,447	31,348	22,352	11,641	24,087	914,138	52	2,438,777	1910
1911	32	238,895	969,866	290,843	100,793	1,441	1,601,838	11	412,647	24,143	2,008	17,326	15,862	471,986	21	669,163	27,347	10,969	11,585	28,075	747,139	64	2,820,963	1911
1912	51	254,851	1,053,847	589,578	134,914	6,607	2,039,777	14	422,347	136,891	29,591	19,782	14,198	622,809	22	1,227,060	114,247	19,359	15,088	21,789	1,397,543	87	4,060,129	1912
1913	42	190,685	1,299,400	254,689	58,071	1,006	1,803,851	14	364,253	49,299	5,038	13,284	15,393	447,267	23	1,419,381	54,217	7,927	6,022	11,768	1,505,315	79	3,756,433	1913
1914	45	294,842	872,504	597,435	112,163	12,087	1,889,031	14	395,110	195,830	17,693	36,739	11,132	656,504	23	1,511,622	29,489	47,350	8,890	24,946	1,622,297	82	4,167,832	1914
1915	46	229,709	1,820,171	375,260	90,161	25,135	2,540,436	17	500,000	43,951	39,404	26,062	22,978	632,395	23	1,192,248	6,251	69,744	10,347	37,581	1,316,171	86	4,489,002	1915
1916	54	182,075	1,335,291	505,405	182,405	18,482	2,223,658	19	572,096	371,845	64,320	55,298	22,160	1,085,719	27	1,365,271	46,410	145,513	27,481	25,537	1,610,212	100	4,919,589	1916
1917	60	202,951	2,149,075	750,187	152,538	29,657	3,284,408	26	725,925	137,955	86,764	36,065	19,236	1,005,945	29	1,556,005	11,436	40,762	5,105	18,659	1,631,967	113	5,922,320	1917
1918	75	226,108	2,034,997	954,498	152,689	17,248	3,385,540	29	662,829	358,491	313,196	47,904	21,818	1,404,238	30	1,729,622	24,724	98,965	15,979	18,301	1,887,591	134	6,677,369	1918
1919	75	240,208	1,521,897	1,146,943	169,300	30,016	3,108,364	30	437,341	107,924	163,530	54,596	12,075	775,466	28	526,794	27,613	37,989	6,242	109,642	707,280	133	4,591,110	1919
1920	80	199,829	1,026,862	830,538	112,178	32,869	2,202,276	35	533,122	510,350	148,122	67,744	20,417	1,279,755	28	742,829	76,222	44,048	12,389	37,990	913,478	143	4,395,509	1920
1921	30	105,084	416,958	182,272	90,845	9,034	804,193	27	596,200	13,116	28,305	11,425	10,225	659,271	27	1,057,510	10,397	37,029	7,513	29,060	1,141,509	84	2,604,973	1921
1922	57	121,652	1,313,280	425,947	128,023	5,777	1,994,679	36	567,576	331,005	88,321	36,623	8,930	1,032,455	28	1,386,169	13,261	48,228	9,666	16,897	1,474,221	121	4,501,355	1922
1923	67	178,962	2,257,768	434,490	129,990	12,857	3,014,067	39	441,774	197,291	72,821	32,940	11,537	756,363	30	1,257,594	77	19,834	822	14,583	1,292,910	136	5,063,340	1923
1924	65	192,806	1,686,884	799,215	110,002	8,259	2,797,166	38	442,876	892,667	192,901	68,883	10,593	1,607,920	31	814,042	33,517	35,067	2,322	14,889	899,837	134	5,305,923	1924
1925	62	151,140	1,701,849	835,599	94,539	12,493	2,795,611	37	364,721	402,801	199,797	68,267	19,289	1,054,875	30	549,429	590	29,999	1,393	18,992	600,403	129	4,450,898	1925
1926	61	173,891	2,158,699	618,397	96,389	10,679	3,058,055	43	630,505	1,144,180	243,808	104,309	23,683	2,146,485	28	1,352,691	35,470	40,238	1,829	18,114	1,448,342	132	6,652,882	1926
1927	62	115,664	581,728	224,696	114,331	9,131	1,045,823	47	320,159	833,028	253,410	138,243	42,948	1,587,788	29	884,740	.	29,262	55	18,404	932,461	138	3,566,072	1927
1928	60	106,793	2,137,796	566,689	145,323	5,596	2,962,197	62	431,924	643,816	378,499	152,066	32,567	1,638,872	29	1,405,344	3,852	46,316	497	13,032	1,469,041	151	6,070,110	1928
1929	59	161,580	1,541,463	290,742	97,850	6,982	2,098,617	70	455,997	1,028,790	498,873	68,538	36,526	2,088,544	30	1,075,473	253	71,261	5,862	30,232	1,183,081	159	5,370,242	1929
1930	57	216,743	2,296,270	283,553	155,844	10,894	2,963,304	68	270,310	839,751	281,111	170,741	32,123	1,594,036	27	361,734	14,631	31,336	3,403	20,543	431,647	152	4,988,987	1930
1931	41	148,485	2,038,388	277,225	88,841	14,926	2,567,865	49	439,572	940,124	193,131	81,275	27,567	1,681,669	25	1,107,725	...	66,553	92	8,631	1,183,001	115	5,432,535	1931
1932	31	140,356	1,380,093	582,290	88,293	23,637	2,214,669	34	659,539	720,893	145,660	60,363	32,317	1,618,772	22	1,304,832	15,587	93,178	695	12,755	1,427,047	87	5,260,488	1932
1933	38	81,122	1,477,608	425,869	95,629	8,130	2,088,358	31	486,528	703,696	207,363	64,548	23,792	1,485,927	23	1,614,721	2,139	25,013	1,456	9,084	1,652,413	92	5,226,698	1933
1934	47	104,413	2,622,186	393,904	159,509	15,606	3,295,618	45	707,754	1,198,457	307,649	74,832	27,005	2,315,697	22	1,813,835	1,959	33,502	1,219	8,756	1,859,271	114	7,470,586	1934
1935	46	159,506	2,209,373	541,152	141,501	11,496	3,063,028	44	391,088	1,045,155	302,011	47,198	24,338	1,809,790	9	272,581	..	9,567	219	641	283,008	99	5,155,826	1935
1936	46	219,531	2,959,774	784,455	136,043	22,105	4,121,908	46	839,243	1,598,585	295,956	80,608	31,820	2,846,212	24	1,423,781	30,911	26,572	1,581	3,983	1,486,828	116	8,454,948	1936
1937	45	165,170	2,138,264	503,235	86,912	30,613	2,924,194	47	459,399	1,480,658	190,425	42,028	31,234	2,209,744	24	1,476,585	376	35,454	138	7,547	1,520,100	116	6,654,038	1937
1938	39	189,880	1,886,104	473,619	140,791	16,339	2,706,733	42	484,518	1,336,000	253,905	75,596	20,146	2,170,165	17	1,848,725	...	59,335	345	6,241	1,914,646	98	6,791,544	1938
1939	48	195,907	1,474,269	293,316	65,906	2,364	2,031,762	47	657,198	1,034,623	237,148	37,250	21,023	1,987,242	24	1,118,233	627	95,948	...	5,399	1,220,207	119	5,239,211	1939
1940	46	125,462	1,452,037	484,476	155,577	1,539	2,219,091	42	384,266	1,441,266	343,072	126,878	18,359	2,314,475	11	443,653	14,088	32,991	1,675	2,405	494,812	99	5,028,378	1940
1941	47	137,861	3,631,491	321,118	193,751	1,812	4,286,033	44	413,658	1,005,029	333,618	159,023	30,825	1,942,153	19	613,369	129	55,771	3,439	5,609	678,317	105	6,906,503	1941
1942	47	121,083	1,758,741	597,373	189,210	2,033	2,668,779	44	352,475	1,051,359	328,860	180,698	34,916	1,948,308	7	438,111	8,550	16,556	2,629	6,178	472,024	98	5,089,109	1942
1943	34	85,313	1,042,610	672,359	92,245	1,868	1,894,395	34	582,287	1,277,915	167,809	66,311	37,421	2,131,743	14	1,314,575	1,532	42,410	178	11,676	1,370,371	81	5,396,509	1943
1944	38	131,580	1,081,334	655,188	88,380	1,765	1,958,247	45	461,718	1,002,056	286,498	96,255	29,718	1,376,245	13	987,459	3,932	44,039	2,418	5,456	1,043,304	94	4,877,796	1944
1945	41	129,514	1,039,521	265,845	107,425	2,582	1,544,887	43	434,872	1,198,665	331,654	85,506	30,041	2,080,738	8	609,132	1,623	92,551	3,103	9,086	715,495	92	4,341,120	1945
1946	41	59,029	999,443	321,037	94,074	1,612	1,475,195	48	350,728	1,053,605	257,909	96,301	25,356	1,783,899	20	656,141	4,073	38,209	2,686	10,906	712,015	108	3,971,109	1946
1947	40	56,032	680,693	260,666	72,434	4,019	1,073,844	47	470,056	1,034,475	196,731	74,388	34,790	1,810,430	21	1,350,151	8,449	42,814	1,893	14,885	1,418,192	107	4,302,466	1947
1948	39	39,317	683,972	403,959	165,033	5,973	1,298,254	57	318,638	616,822	291,977	69,259	34,774	1,331,470	24	1,277,508	3,250	78,725	7,507	13,898	1,380,888	120	4,010,612	1948
1949	36	39,485	2,102,604	243,080	125,059	1,046	2,511,274	55	391,244	580,438	221,089	59,409	37,213	1,289,393	21	529,859	...	44,140	4,411	11,974	590,384	112	4,391,051	1949
1950	36	49,475	535,662	500,422	116,344	560	1,202,463	55	513,985	558,263	242,301	68,233	40,386	1,423,158	21	590,048	1,609	35,056	6,924	13,375	647,012	112	3,272,643	1950
1951	42	70,317	1,226,582	466,334	262,393	636	2,028,262	59	362,554	333,091	227,632	72,762	71,648	1,067,687	13	339,592	75	25,521	8,003	15,328	388,519	114	3,484,468	1951
1952	40	74,510	593,422	527,960	122,277	2,756	1,320,925	48	377,094	577,407	399,864	67,117	34,935	1,456,417	21	729,560	1,339	38,836	7,692	19,359	796,786	109	3,574,128	1952
1953	35	120,971	355,580	418,260	90,489	1,571	986,871	40	330,933	604,281	333,390	36,730	33,160	1,338,494	19	530,186	1,108	45,398	2,703	20,810	600,205	94	2,925,570	1953
1954	27	113,130	519,364	601,800	87,996	2,642	1,324,932	39	299,325	621,214	381,536	77,041	28,257	1,407,373	12	393,201	9,835	42,890	6,228	22,695	474,849	78	3,207,154	1954
1955	26	55,561	547,765	177,690	64,814	1,157	846,987	44	233,290	722,448	162,999	47,294	22,078	1,188,109	12	372,756	90	22,968	2,476	24,583	422,873	79	2,457,969	1955
1956	23	80,855	565,076	267,934	44,030	2,082	959,977	44	357,242	547,775	375,417	47,525	22,082	1,350,041	11	577,461	3,198	31,683	4,385	22,889	640,336	78	2,950,354	1956
1957	23	82,276	404,581	362,979	53,567	1,567	904,970	36	188,682	309,193	435,750	29,275	17,114	980,014	13	492,072	...	31,087	4,448	29,303	556,910	72	2,441,894	1957
1958	21	80,113	692,614	352,740	42,927	744	1,169,138	39	131,796	803,244	358,481	43,363	9,228	1,346,112	17	278,434	60,190	43,467	12,703	38,327	433,121	71	2,948,371	1958
Ave.	31	76,669	754,305	391,920	100,990	1,475	1,121,769	45	318,615	565,735	313,846	54,310	31,610	1,284,680	15	483,317	7,744	36,105	6,197	21,357	555,100	92	3,165,360	Ave.

NOTE: "Average is for the last ten years. Figures for years prior to 1952, and those for 1956, are revised from official U.S. data; those for 1958 are from PACIFIC FISHERMAN's own compilation; both are limited to fish canned in Alaska, and do not include Alaska fish canned on Puget Sound. The latter are included in figures from 1952 through 1955, which are from Pacific Fisherman's own data.

Employment in Alaska Red Salmon Fishery

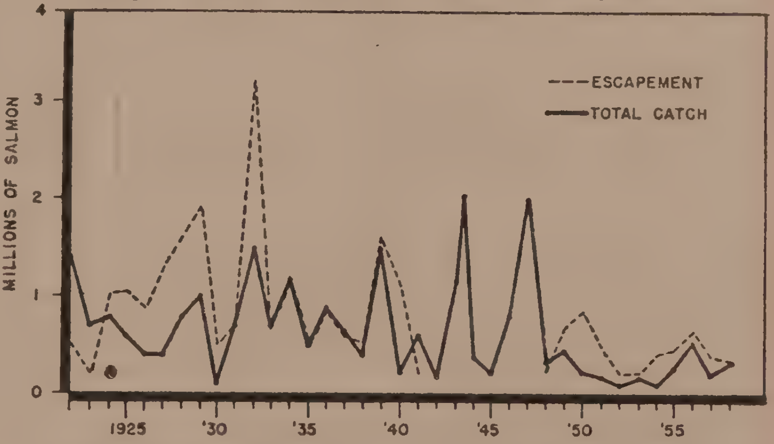


The sea lion studies being conducted by the Fisheries Research Institute, under support of another Fish and Wildlife Service contract are now in their third year. In 1956 and 1957 census techniques were developed that indicated there were upwards of 78,000 sea lions on the major rookeries in the Gulf of Alaska. The 1958 research was concerned with developing methods of controlling the numbers of sea lions.

- Chignik area supports two types of salmon fisheries. Greatest interest is in the Red salmon run into Chignik River itself. Though the fishery at one time produced catches in excess of one million fish annually, it has reached half that figure only once in the last decade. Fishing is conducted in the lagoon at the mouth of the river by a concentration of beach seines. Traps that were formerly installed in the immediate vicinity have not been used for several years.

Pink and Chum salmon-producing bays that are strung along the Pacific Ocean coast form the basis for the remainder of the salmon fishery in the Chignik area. Like the adjoining fishery of the South Peninsula, which they resemble, the Chignik Chum and Pink salmon fisheries are in a reduced state.

Chignik Red Salmon Catch and Escapement



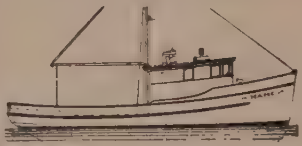
The Chignik Red salmon run for 1958 was below that of the past three years but was nearly as good as the parent cycle year of 1953. The escapement was 325,000 fish and the commercial catch 321,000. Fishery management of the Chignik Red salmon followed the same principle as in 1957 in attempting to attain representative escapements from each portion of the total run. This is accomplished through the use of a large counting weir just upstream from tidal influence. During the first half of the fishery the escapement was somewhat less than the catch, but during the last half it was greater. This was believed to be due to the large number of boats that fished early in the lagoon and to low tides that came during fishing hours and restricted both fishing effort and salmon to the river channels. Two extra days of closure just before the peak of the run brought the escapement back to within a few thousand of the catch. This closure caused most of the boats and gear to seek fish outside of the lagoon, and many of them did not return. Thereafter, escapement exceeded catch until fishing ended on August 20.

Weekly Red Salmon Packs on Bristol Bay

YEAR	FIRST WEEK		SECOND WEEK		THIRD WEEK		FOURTH WEEK		TO CLOSE	TOTAL	YEAR
1940	(July 6)	221,687	(July 13)	139,853	(July 20)	33,848	(July 28)	4,606	. . .	399,994	1940
1941	(July 5)	204,929	(July 12)	206,049	(July 19)	127,573	(July 28)	31,316	. . .	569,867	1941
1942	(July 4)	149,175	(July 11)	142,145	(July 18)	93,174	(July 25)	44,323	7,357	436,174	1942
1943	(July 3)	284,635	(July 10)	449,076	(July 17)	272,074	(July 24)	242,122	27,174	1,275,081	1943
1944	(July 8)	431,421	(July 15)	347,149	(July 22)	116,514	(July 29)	18,045	. . .	944,12[illegible]	1944
1945	(July 7)	236,413	(July 14)	233,332	(July 21)	84,681	(July 28)	15,405	.	569,831	1945
1946	(July 6)	241,948	(July 13)	241,405	(July 20)	88,520	(July 27)	30,831	. . .	602,704	1946
1947	(July 5)	641,401	(July 12)	376,575	(July 19)	242,854	(July 26)	70,975	3,226	1,335,031	1947
1948	(July 3)	482,252	(July 10)	464,488	(July 17)	169,806	(July 24)	112,111	7,680	1,236,226	1948
1949	(July 2)	260,145	(July 9)	142,637	(July 16)	86,865	(July 23)	30,675	3,581	523,903	1949
1950	(July 1)	93,006	(July 8)	370,340	(July 15)	89,070	(July 22)	10,832	411	563,659	1950
1951	(June 30)	59,185	(July 7)	127,553	(July 14)	73,692	(July 21)	59,143	. . .	319,573	1951
1952	(June 28)	92,073	(July 5)	228,069	(July 12)	256,014	(July 19)	119,729	21,618	712,503	1952
1953	(June 27)	63,478	(July 4)	191,378	(July 11)	127,590	(July 18)	51,229	9,382	443,057	1953
1954	(July 3)	116,428	(July 10)	97,034	(July 17)	75,381	(July 24)	17,230	1,396	307,469	1954
1955	(July 2)	73,936	(July 9)	142,358	(July 16)	86,500	(July 23)	8,469	2,369	313,632	1955
1956	(June 30)	32,826	(July 7)	121,942	(July 14)	266,146	(July 21)	103,065	7,121	531,100	1956
1957	(June 29)	57,403	(July 6)	134,668	(July 13)	223,727	(July 20)	40,512	7,996	464,306	1957
1958	(June 29)	47,190	(July 6)	168,587	(July 20)	38,942	(July 20)	46,076	15,668	316,463	1958

Compiled from U.S. Fish and Wildlife Service preliminary statistics and include only salmon canned in that area.

Figures in first column of table are for the total pack (in full cases of 48 lbs. net) to dates shown, those following show weekly packs.



GILLNETTERS
TROLLERS
SEINE SKIFFS

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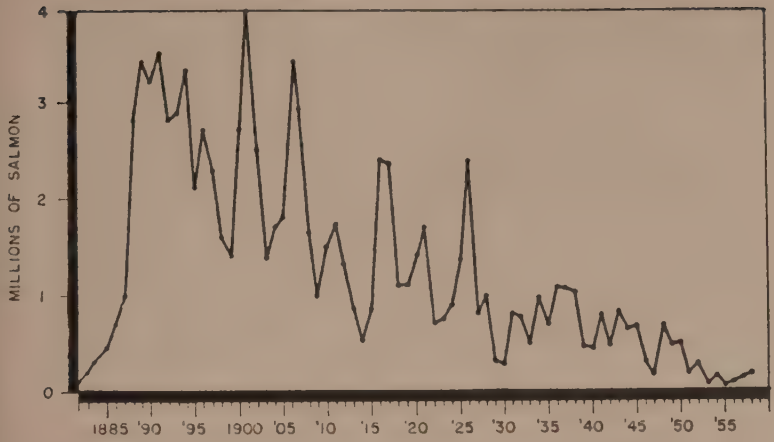
Karluk Red Salmon Catch



With few exceptions escapement to the Pink and Chum streams in the Chignik area was very poor. The Aniakchak River, Hook Bay, and the Chignik River tributaries were the only exceptions, and even in these escapement was only fair.

Kodiak Island

● Kodiak's salmon trap fishery has been concentrated in Alitak Bay and on the west sides of Kodiak and Afognak Islands in Shelikof Strait between Uyak and Malina Bays, where, from June to August, some of the major Red, Pink, and Chum salmon runs occur. More than 30 Red salmon and 200 Pink and Chum salmon runs are harvested by the set gill net and seine fisheries that are distributed throughout the Kodiak area. A gill net and seine fishery of minor proportions for Coho and late Chum salmon takes place during the fall season.

A vast increase in seine fishing effort since the early 1950's has been coincident with a sharp decline in the abundance of Red and Pink salmon. The Chum salmon fishery has held relatively stable.

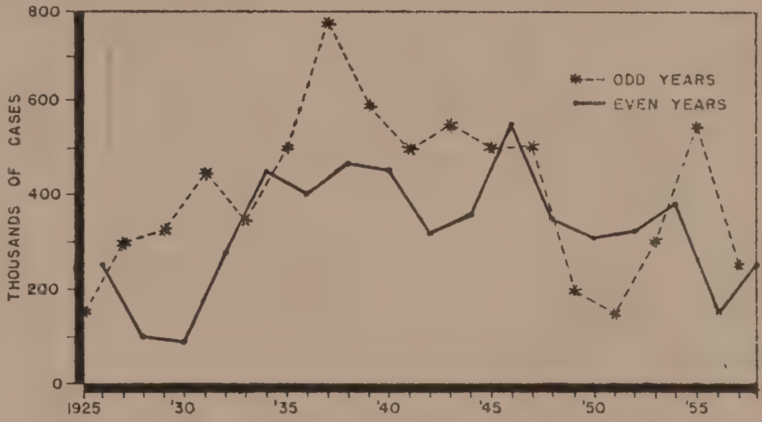
The total pack of 18,000 *cases of Red salmon for* 1958 *is less than one-fifth of the production average of the preceding decade.* Reduced runs in the major producing systems, such as Karluk, Red River, and Alitak, are largely responsible for the decline. However, some improvement in the Karluk run is expected in 1959.

Karluk Lake Red salmon catch and escapement were both greater in 1958 than in 1956 or 1957, the catch being 189,845 and the escapement 273,523.

The 1958 Pink salmon pack of 254,000 cases was well ahead of the parent cycle year but is barely two-thirds of the previously normal even-year pack. The season, which traditionally ends on August 13, was closed on August 8 to improve escapement of the late runs.

Because of the relatively poor escapement in 1957, the outlook for strength in the Pink salmon runs of 1959 is not encouraging. However, general earlier spawning of the brood stock followed by an exceptionally mild winter, could possibly result in a lower egg and fry mortality of this light seeding.

Kodiak Pink Salmon Pack



The 1958 Chum salmon pack of 91,000 cases was well above the long-term average for this species. A general rise in the Chum salmon catches of recent years possibly reflects increased fishing effort rather than increased abundance.

Research in 1957 and 1958 in the Kodiak area has indicated that the escapement into Karluk Lake utilizes different spawning areas as the season progresses. Examination of old records confirms this as a long-established phenomenon. In general, the Red salmon of the spring escapement spawn in all streams tributary to Karluk Lake. The spawners that enter the lake in midseason go to the large rivers at the southern end of the lake, while in the fall separate waves of fish spawn in O'Malley River, Thumb River, the lake beaches, and upper Karluk River.

Thus, at any given time during the season, the fishery captures fish destined predominantly for specific spawning grounds in the Karluk system. The spawning beds of this system fall naturally into several physical types, which are probably not equally productive. Determination of actual productivity of each stream type is one of the principal research objectives of the Karluk program.

Reports from previous years indicate Red salmon fry that emerge from the gravels of upper Karluk River work their way upstream into Karluk Lake. This movement was verified in 1958 by the use of fry traps that were placed in the upper river near the outlet of the lake. Because the counting weir, which was used in former years, might interfere with the upstream migration of both fry and adults, the weir was not used in 1958. Instead, an estimate of the number of adult salmon entering the lake was made by use of counting towers.

Investigations of the natural basic fertility of Karluk Lake were made in 1958. Comparison of fertility, as measured by the concentration of certain nutrients in 1958, with the fertility, as measured by the concentration of the same elements in 1926, showed only minor changes.

Studies of the effects of removing predators and competitors from lakes to increase production of Red salmon in freshwater were continued and expanded on Afognak Island. This work by the Alaska Department of Fish and Game is partially financed by the Fish and Wildlife Service.

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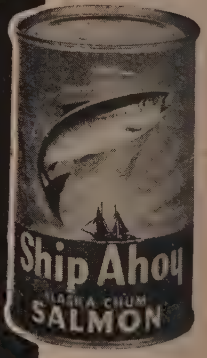

Ship Ahoy
ALASKA CHUM
SALMON

SALMON

COOK INLET

• Probably nowhere in Alaska were the 1958 season's salmon fisheries more aberrant than in Cook Inlet. The pack consisted of only 6,600 cases of King salmon and 38,000 cases of Red salmon. The Chum salmon pack was normal. Pink salmon saved the season for fishermen and packers alike with a phenomenal production of 165,000 cases—the result of an unprecedentedly large run to the Susitna River in July and of a good showing in the Port Dick region on the ocean coast.

Even though fishing was permitted in the Cook Inlet area only two days per week during June and July, escapements were small. The Red salmon escapements for the Inlet are shown in Figure 17. Pink salmon runs have been too erratic in recent years to make a prediction for 1959, but it is an off-cycle year, and so will probably produce below 1958.

Until 10 years ago, a stable set net and trap fishery produced an average pack of 125,000 cases of Red salmon in July of each year. Some 20,000 cases of King salmon were put up in June, and beach seiners conducted a minor but dependable fishery for Pink and Chum salmon around the lower Kenai Peninsula after the Red salmon run was over.

A new drift gill net fishery developed on the Inlet in the late 1940's and raised the Red salmon pack to 175,000 cases in both 1950 and 1951. Since then the Red salmon catch has greatly declined. More recently, the King salmon runs have also dwindled, but a

Pack of Alaska Canned Salmon by Species and Values

Salmon fishing in Alaska commenced in 1878, but no segregation of the packs by species is available prior to 1896, while the valuations were not recorded prior to 1905. Earlier total packs, starting with 8,159 cases in 1878, ranged from 6,539 cases in 1880 to a peak of 801,400 in 1891, the output in 1895 being 626,530 cases. The average from the beginning through 1895 was 291,973 cases.

Values are based on opening prices, or on prices at which the bulk of the packs were sold.

YEAR	RED, SOCKEYE		PINK		CHUM		COHO		KING		TOTAL		YEAR
	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1896	806,010	...	111,986	...	452	...	37,017	...	11,242	...	966,707	...	1896
1897	688,581	...	157,711	...	1,396	...	43,557	...	17,833	...	909,070	...	1897
1898	782,941	...	109,399	...	5,184	...	54,711	...	12,862	...	965,997	...	1898
1899	864,254	...	149,159	...	1,931	...	39,402	...	23,400	...	1,078,146	...	1899
1900	1,197,406	...	232,022	...	30,012	...	50,984	...	37,715	...	1,548,139	...	1900
1901	1,319,335	...	541,427	...	47,464	...	65,509	...	43,069	...	2,016,804	...	1901
1902	1,685,546	...	549,602	...	159,849	...	82,723	...	59,104	...	2,536,824	...	1902
1903	1,687,244	...	355,799	...	35,052	...	120,506	...	47,609	...	2,246,210	...	1903
1904	1,505,548	...	299,333	...	21,178	...	85,741	...	41,956	...	1,953,756	...	1904
1905	1,574,428	$5,335,547	168,579	$498,194	41,972	$113,056	67,394	$215,875	42,125	$141,999	1,894,516	$6,304,671	1905
1906	1,475,961	5,620,875	348,875	1,046,951	254,812	730,235	109,141	382,109	30,834	116,222	2,219,044	7,896,392	1906
1907	1,295,113	5,915,227	561,973	1,799,290	184,173	547,757	85,190	337,384	43,424	181,718	2,169,873	8,781,366	1907
1908	1,651,770	7,524,251	644,133	1,733,379	218,513	554,197	68,827	274,089	23,730	99,867	2,606,973	10,185,783	1908
1909	1,705,302	7,610,550	464,873	1,114,839	120,712	274,110	56,556	231,029	48,034	207,624	2,305,477	9,438,151	1909
1910	1,450,267	7,774,390	554,322	1,764,055	254,218	773,409	114,026	559,666	40,221	214,802	2,413,054	11,086,322	1910
1911	1,320,705	8,552,512	1,021,356	4,493,966	303,823	1,215,692	120,704	752,283	45,378	363,024	2,820,966	16,198,833	1911
1912	1,904,258	10,776,987	1,303,365	3,410,928	638,528	1,600,444	170,384	791,023	52,594	310,847	4,060,129	16,890,229	1912
1913	1,964,379	9,136,616	1,402,916	3,687,446	267,654	623,424	77,377	271,078	34,167	140,914	3,746,914	13,859,478	1913
1914	2,201,574	12,482,110	997,823	3,600,075	662,478	2,260,614	157,792	735,219	48,165	281,924	4,067,832	19,719,942	1914
1915	1,922,296	11,907,202	1,870,373	5,619,436	484,408	1,356,469	126,570	588,903	85,694	458,000	4,489,341	19,930,010	1915
1916	2,119,442	13,147,994	1,753,546	6,446,168	715,238	2,434,627	265,184	1,430,143	66,179	364,496	4,919,589	23,823,428	1916
1917	2,484,881	29,058,778	2,298,466	15,120,419	877,713	5,375,713	193,708	1,634,600	67,552	680,868	5,922,320	51,850,017	1917
1918	2,618,559	25,313,837	2,418,212	16,142,604	1,366,859	8,756,598	216,572	2,068,784	57,367	596,000	6,677,569	52,877,823	1918
1919	1,265,543	17,143,017	1,657,434	14,982,542	1,348,462	9,450,772	230,229	2,809,310	90,533	1,131,662	4,592,201	45,552,714	1919
1920	1,475,780	19,851,816	1,613,434	9,751,845	1,022,708	4,712,575	192,311	1,579,963	91,276	1,154,013	4,395,509	37,050,212	1920
1921	1,758,794	16,539,177	440,471	1,938,263	247,606	990,424	109,783	649,480	48,319	352,699	2,604,699	20,470,043	1921
1922	2,075,397	19,719,158	1,657,556	7,709,011	562,496	2,369,396	174,312	949,312	31,604	258,799	4,501,428	31,006,027	1922
1923	1,878,330	17,727,572	2,455,136	12,337,580	527,145	2,542,759	163,752	957,439	38,977	344,078	5,063,340	33,909,428	1923
1924	1,449,724	14,840,946	2,613,068	13,191,793	1,027,183	4,931,172	182,207	1,312,969	33,741	304,809	5,305,923	34,581,689	1924
1925	1,065,290	15,243,243	2,105,240	11,473,271	1,065,395	4,701,847	164,199	1,702,243	50,774	682,235	4,450,898	33,802,839	1925
1926	2,157,087	21,328,739	3,338,349	17,987,527	902,443	4,518,929	202,527	1,700,563	52,476	544,247	6,652,882	46,080,005	1926
1927	1,320,563	16,880,670	1,414,756	8,638,551	507,641	2,761,638	252,629	2,307,569	70,438	853,100	3,566,072	31,441,534	1927
1928	1,944,061	18,902,050	2,785,464	18,512,649	991,504	564,567	297,886	2,140,685	51,195	505,017	6,070,110	45,624,968	1928
1929	1,693,050	19,388,299	2,570,506	15,551,647	860,876	4,659,754	172,070	1,302,887	73,740	769,869	5,370,242	41,672,456	1929
1930	848,787	11,172,954	3,150,652	12,773,894	596,000	2,162,306	329,988	3,011,505	63,560	764,254	4,988,987	29,884,813	1930
1931	1,695,782	16,161,532	2,978,512	10,226,769	536,909	1,726,203	170,208	1,119,332	51,124	462,800	5,432,535	29,696,636	1931
1932	2,104,727	10,803,982	2,116,573	6,368,695	821,128	2,301,408	149,351	606,798	68,709	368,522	5,260,488	20,449,405	1932
1933	2,182,371	14,649,771	2,183,443	10,498,358	658,245	3,028,584	161,633	884,276	41,006	345,310	5,226,698	29,406,294	1933
1934	2,626,002	17,687,617	3,822,602	15,349,445	735,055	2,651,538	235,560	1,197,000	51,367	155,230	7,470,586	37,040,830	1934
1935	823,175	7,216,754	3,254,528	13,767,517	852,730	3,414,160	188,918	1,263,479	36,475	348,024	5,155,826	26,009,934	1935
1936	2,482,555	19,648,482	4,589,270	18,430,508	1,106,983	4,094,532	218,232	1,453,566	57,908	452,125	8,454,948	44,079,213	1936
1937	2,101,154	21,590,206	3,619,298	18,151,343	729,114	3,507,933	135,078	1,096,905	69,394	682,031	6,654,038	45,028,418	1937
1938	2,523,123	19,663,910	3,222,104	12,350,571	786,859	2,848,266	216,732	1,342,715	42,726	341,788	6,791,544	36,547,250	1938
1939	1,971,338	18,560,539	2,509,519	12,656,697	626,412	2,905,286	103,156	708,013	28,036	280,036	5,239,211	35,110,571	1939
1940	953,381	9,402,841	2,908,025	15,770,772	860,539	4,312,766	284,130	2,122,330	22,303	219,742	5,028,378	31,828,451	1940
1941	1,164,888	15,952,391	4,636,649	32,593,271	710,507	4,844,060	356,213	3,595,982	38,246	480,998	6,906,503	57,466,702	1941
1942	912,006	13,804,764	2,818,650	22,565,374	942,789	7,178,696	372,537	4,442,108	43,127	686,567	5,089,109	48,677,509	1942
1943	1,982,175	30,381,755	2,322,057	18,701,467	882,578	6,755,829	158,734	1,937,981	50,965	802,162	5,396,509	58,579,194	1943
1944	1,580,757	24,254,327	2,087,322	16,924,966	985,725	7,565,526	187,053	2,278,938	36,939	584,787	4,877,796	51,608,544	1944
1945	1,173,356	18,260,328	2,239,282	18,201,352	688,485	5,312,578	195,860	2,078,066	41,709	676,640	4,338,692	44,528,964	1945
1946	1,065,898	22,880,873	2,057,121	24,685,452	617,155	7,120,923	193,061	3,231,992	37,874	748,321	3,971,109	58,667,561	1946
1947	1,876,239	45,390,823	1,723,617	32,269,419	500,211	8,983,297	148,715	3,522,434	53,684	1,131,912	4,302,466	91,297,885	1947
1948	1,635,463	44,994,233	1,304,044	31,617,066	774,661	16,345,475	241,799	6,278,595	54,645	1,459,245	4,010,612	100,694,614	1948
1949	967,626	25,504,967	2,682,330	42,921,708	499,226	7,572,386	192,352	4,004,944	50,007	1,258,463	4,391,541	81,262,468	1949
1950	1,166,052	34,211,966	1,095,534	25,663,330	780,684	15,269,095	191,501	5,131,834	54,321	1,550,183	3,288,092	81,826,408	1950
1951	816,831	26,017,227	1,559,748	32,505,086	721,152	10,950,656	345,159	5,131,859	91,425	2,596,635	3,534,315	77,201,463	1951
1952	1,181,162	33,783,498	1,172,168	21,705,200	966,660	15,140,209	197,004	4,201,837	56,970	1,521,732	3,573,964	76,352,476	1952
1953	994,293	27,996,373	955,528	17,439,908	800,882	11,214,236	127,676	2,894,714	56,222	1,442,103	2,934,601	60,987,334	1953
1954	804,194	23,235,032	1,149,422	22,477,095	1,029,295	15,093,798	171,643	3,926,204	52,600	1,407,488	3,207,154	66,139,617	1954
1955	661,607	21,045,719	1,270,303	27,044,751	363,657	6,322,832	114,584	3,056,498	47,818	1,369,984	2,457,969	58,839,784	1955
1956	1,015,558	34,912,265	1,116,769	24,927,897	675,034	12,873,940	95,940	2,763,127	47,053	1,471,651	2,950,354	76,948,880	1956
1957	763,030	26,694,705	713,774	16,600,404	829,816	15,344,031	87,290	2,391,960	47,984	1,533,286	2,441,894	62,564,386	1957
1958	491,343	15,150,773	1,556,048	33,379,578	754,688	12,630,370	98,[illegible]	2,846,042	48,299	1,489,107	2,948,371	[illegible]	1958
Aver	991,178	28,703,616	1,426,477	27,962,948	742,109	11,617,912	168,304	3,644,505	55,327	1,512,966	3,347,44[illegible]	73,2[illegible]1,877	Aver

NOTE:- Figures for the last year shown are Pacific Fisherman's own compilation from original sources, and include fish canned elsewhere from salmon caught in Alaska. Figures for previous years are from official Fish & Wildlife Service data, to which have been added fish canned elsewhere from fish caught and frozen in Alaska. "Average" is for the last ten years.

The Five Salmon Go to Market with OCEANIC

OUR BRANDS

CHINOOK

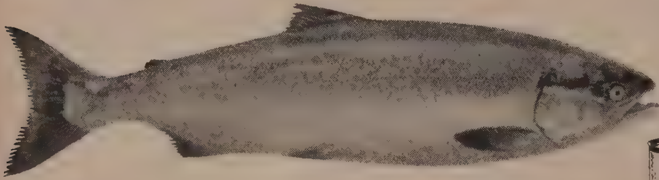
Springkist Fancy
Columbia River
Chinook

Springkist Alaska
Red Chinook

Springkist
RED CHINOOK
SALMON

Called "King" in many areas, the big salmon above well deserves the name. This salmon is highly favored, although he furnishes only a limited part of the canned salmon pack. Weight averages about 25 pounds, but Chinooks above 100 pounds have been taken.

Springki
Red Chinook
SALMON



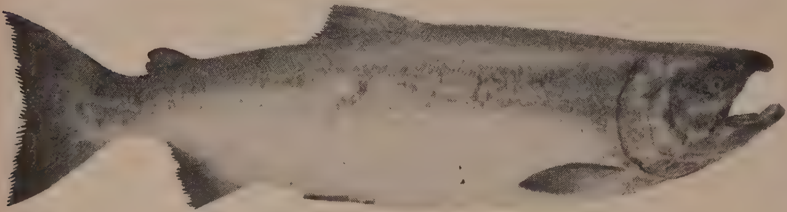
RED

Red-E-Lunch **Coatarms**
Hummer

"Sockeye" in some areas, this trim salmon averages 7 pounds weight. Yielding the Red salmon pack, it is one of the world's most important fishes.

COATARMS
SALMON

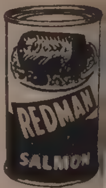
ALASKA
RED-E-LUNC
RED
SALMON

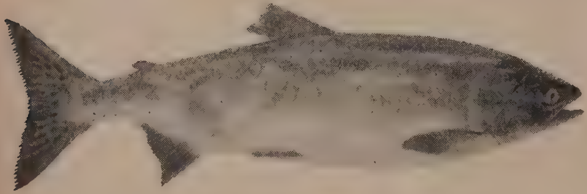


SILVER

Redman
Salad

Commonly known as "Coho" and "Medium Red" as well as "Silver," this species averages about 8 pounds in weight. The flesh has a strong red color.


REDMAN
SALMON



PINK

Oceanic **Seafed**
Down South **Seafarer**

Although the smallest of the five salmon, the Pink makes the largest contribution of all to the canned salmon pack. The species' life cycle is two years.

PINK
OCEANIC
Pink
SALMON

CHUM

Tomah **Ben Hur** **Tennis**
Overland **Western Star**

The pale color of its flesh keeps the Chum salmon cheap, as consumer preference for color in canned salmon has powerful leverage. Although pale, although cheap, this salmon ranks on a par with the others in nutritive value.

TOMAH
ALASKA
SALMON

OCEANIC SALES COMPANY

33rd FLOOR SMITH TOWER SEATTLE 4, WASHINGTON MAin 2-6870

1958-CENTRAL ALASKA CANNED SALMON PACK

COMPANY	CANNERY LOCATION	RED or SOCKEYE 1 & 4 lb. Talls & Flats	RED or SOCKEYE -lb. Flats (8 doz.)	RED or SOCKEYE TOTAL	PINK 1 & 4 lb. Talls & Flats	PINK -lb. Flats (8 doz.)	PINK TOTAL	CHUM 1 & 4 lb. Talls & Flats	CHUM -lb. Flats (8 doz.)	CHUM TOTAL	COHO 1 & 4 lb. Talls & Flats	COHO -lb. Flats (8 doz.)	COHO TOTAL	KING or CHINOOK 1 & 4 lb. Talls & Flats	KING or CHINOOK -lb. Flats (8 doz.)	KING or CHINOOK TOTAL	GRAND TOTAL (full cases)
Alaska Packers Association	Chignik	12,615	1,549	14,164	8,900	----	8,900	12,669	----	12,669	47	---	47	40	-	40	35,820
	Larsen Bay, Alitak	3,448	95	3,543	29,862	15	29,877	5,411	----	5,411	135	---	135	20	-	20	38,986
Alaska Year-Round Canneries	Seldovia	1,715	484	2,199	16,448	1,989	18,437	7,914	204	8,118	1,742	---	1,742	224	111	335	30,831
Arctic Maid Fisheries	Kodiak	41	----	41	---	----	---	17	----	17	1,367	---	1,367	--	---	--	1,425
Berman Packing Co.	Ninilchik	60	1,550	1,610	1,000	2,100	3,100	3,300	450	3,750	4,300	150	4,450	---	150	150	13,060
Chignik Fisheries Co.	Chignik	12,260	----	12,260	9,985	----	9,985	19,201	----	19,201	47	---	47	41	--	41	41,534
Cook Inlet Packing Co.	Seldovia	683	247	930	3,726	61	3,787	2	----	2	231	---	231	32	39	71	5,021
Copper River Co-op, Inc.	Cordova	3,777	----	3,777	---	5,940	5,940	---	2,559	2,559	----	2,173	2,173	---	260	260	14,709
Crystal Falls Fish Co.	Crystal Falls	850	----	850	70	----	70	---	----	---	1,369	- -	1,369	32	--	32	2,321
Emard Packing Co.	Anchorage	4,527	1,042	5,569	17,474	16	17,490	7,983	15	7,998	7,476	44	7,520	139	2,962	3,101	41,678
Everitt & Company	Seldovia	57	----	57	5,643	----	5,643	437	----	437	----	---	--				6,137
Fidalgo Island Packing Co.	Port Graham	3,124	785	3,909	19,165	2,999	22,164	10,549	1,298	11,847	643	181	824	440	8	448	39,192
Fisheries Products Co.	Anchorage	50	---	50	6,952	----	6,952	2,551	----	2,551	----	--	---	--		-	9,553
Halferty Canneries, Inc.	Kodiak	(a) 877	----	877	14,313	----	14,313	8,002	----	8,002	87	---	87	2	--	2	(a) 23,281
	Orca	738	6,983	7,721	47,642	87	47,729	17,267	----	17,267	19	---	19	588		588	73,324
P. E. Harris Co.	False Pass	5,648	----	5,648	15,564	----	15,564	33,554	----	33,554	2,218	---	2,218	88		88	57,072
Island Cove Packing Co.	Cut-off	----	300	300	---	1,750	1,750	---	850	850	----	1,718	1,718	- -	60	60	4,678
Intercoastal Packing Co.	Uganik Bay	551	31	582	24,062	916	24,978	1,429	221	1,650	121	--	121	--	---		27,331
Kadiak Fisheries Co.	Port Bailey	(b) 3,187	118	3,305	41,635	2,540	44,175	17,866	419	18,285	351	46	397	34	---	34	(b) 66,196
Kayak Packing Company	Alaska Peninsula	52	----	52	1,409	----	1,409	2,833	----	2,833	----	---	----	---	---	---	4,294
	Copper River	479	----	479	---	----	---	---	----	---	3,790	---	3,790	40	---	40	4,309
Kenai Packers	Kenai	4,867	3,942	8,809	23,954	3,035	26,989	9,945	----	9,945	3,185	851	4,036	1,216	--	1,216	50,995
King Crab, Inc.	Kodiak	(h) 723	134	857	2,479	5,765	8,244	8,652	2,718	11,370	468	14	482	---	---	-	(h) 20,953
Libby McNeill & Libby	Kenai & Moser Bay	7,512	2,778	10,290	42,229	1,170	43,399	12,330	----	12,330	1,161	532	1,693	874	--	874	68,586
Munson Packing Co	Kenai	----	----	---	---	----	---	---	----	---	----	---	----	---	27	27	(c) 27
Malaspina Fisheries Co.	Ouzinkie	(d) 939	----	939	4,294	----	4,294	2,467	----	2,467	28	---	28	5	--	5	(d) 7,733
New England Fish Co.	Orca, Sand Point, etc.	3,406	6,983	10,389	72,906	864	73,770	33,145	----	33,145	1,147	---	1,147	20	589	609	119,060
Ouzinkie Packing Co.	Ouzinkie	875	----	875	14,112	----	14,112	7,996	----	7,996	80	---	80	3	---	3	23,066
Pacific American Fisheries	King Cove, Alitak, Snug Harbor	5,065	8,060	13,125	68,101	10,074	78,175	45,786	2,539	48,325	4,165	- -	4,165	182	---	182	143,972
Parks Canning Co.	Uyak Bay & Kodiak	(e) 814	----	814	13,412	----	13,412	7,471	----	7,471	74	---	74	2	---	2	(e) 21,773
	Seldovia	62	----	62	964	----	964	532	----	532	16	---	16	---	---	---	1,574
Peninsula Packers	False Pass	2,309	----	2,309	16,191	----	16,191	6,223	----	6,223	71	---	71	21	---	21	24,815
Port Ashton Packing Corp.	Port San Juan	113	----	113	43,661	----	43,661	3,808	----	3,808	47	---	47	---	--	---	47,629
Port Chatham Packing Co.	Port Chatham	----	405	405	---	8,402	8,402	---	3,474	3,474	----	109	109	---	-	--	12,390
San Juan Fishing & Packing Company	Port San Juan	238	----	238	87,858	----	87,858	11,070	----	11,070	198	---	198	---	---	-	99,364
	Uganik Bay	(f) 917	51	968	14,825	1,414	16,239	5,892	395	6,287	197	38	235	28	---	28	(f) 23,757
Shelter Cove Packing Co.	Fleming Spit	----	83	83	---	----	---	---	----	---	----	---	----	---	34	34	117
Chas. L. Simon Seafoods	Kasilof	----	13	13	---	----	---	---	----	---	----	20	20	- -	15	15	48
Snug Harbor Packing Co.	Kenai	1,084	874	1,958	3,950	----	3,950	1,911	----	1,911	941	---	941	120	- -	120	8,880
Tidewater Packing Co.	Anchorage	(g) ----	44	44	---	131	131	---	29	29	----	105	105	---	105	105	(g) 414
Uganik Trading Co.	Uganik Bay	----	8	8	---	37	37	---	25	25	----	---	----	---	---	---	70
Washington Fish & Oyster Co.	Port Williams	362	----	362	12,368	----	12,368	11,048	----	11,048	----	---	----	---	--	---	23,778
West Point Canning Co.	Uganik Bay	----	592	592	---	997	997	---	490	490	----	4	4	---	---	-	2,083
Whitney & Company	Seldovia	2,597	248	2,845	16,512	2,118	18,630	7,248	4	7,252	1,110	435	1,545	87	---	87	30,359
Western Fisheries Co.	Prince William Sound	843	6,982	7,825	55,515	595	56,110	18,715	118	18,833	112	---	112	1	589	590	83,470
TOTAL CENTRAL ALASKA		87,415	44,381	131,796	750,229	53,015	803,244	342,673	15,808	358,481	36,943	6,420	43,363	4,279	4,949	9,228	1,346,112

NOTE:- All figures given in 48-lb. full cases, or equivalent. (a) Includes 4-lb. cans in cases of 12 as follows: Red, 33, Pink, 1,105, Chum, 640, Coho, 13. (b) Includes fish packed in canneries of other firms at Uganik, Larsen Bay, Chignik and Ugnik. (c) Smoked, (d) Includes 4-lb. cans in cases of 12 as follows: Red, 10; Pink, 403; Chum, 191; Coho, 4. (e) Includes 4-lb. cans in cases of 12 as follows: Red, 32, Pink, 1,106, Chum, 639, Coho, 14. (f) Includes 4-lb. cans in cases of 12 as follows: Red, 145, Pink 1,730, Chum, 554, Coho 46. (g) Includes 132 cases smoked in all varieties. (h) Includes 4-lb. cans in cases of 12 as follows: Red, 723, Pink 2,479, Chum, 8,652, Coho, 468

CENTRAL ALASKA CANNED SALMON PACKS

ALASKA PENINSULA, SOUTH SIDE (Cases)

Reds	Pinks	Chums	Cohoes	Kings	TOTAL	YEAR
74,412	266,144	175,340	11,297	3,741	530,934	1935
276,548	512,740	199,222	27,226	3,678	1,019,414	1936
92,639	451,139	117,147	6,836	2,262	670,023	1937
57,439	367,827	128,574	21,650	1,655	577,145	1938
149,046	292,203	120,901	9,835	4,483	576,468	1939
88,690	356,969	209,749	18,063	3,330	676,801	1940
97,695	233,438	163,058	17,298	3,008	514,497	1941
56,886	291,392	117,532	10,437	843	477,090	1942
177,000	167,024	70,727	6,657	1,934	423,342	1943
40,585	123,988	82,560	21,108	819	269,060	1944
58,984	140,319	73,752	9,923	1,765	284,743	1945
50,808	89,164	88,544	12,122	688	241,326	1946
83,407	115,916	81,921	4,343	456	286,043	1947
23,916	66,743	82,494	2,689	151	175,993	1948
47,751	70,866	39,863	1,526	723	160,729	1949
135,595	88,452	49,703	5,315	803	279,868	1950
15,344	116,730	43,007	3,440	183	178,704	1951
64,685	38,317	110,249	4,106	182	217,539	1952
142,477	131,958	138,117	3,364	624	416,540	1953
45,719	64,847	112,598	2,155	561	225,880	1954
45,318	76,639	54,263	1,638	541	178,399	1955
72,518	72,237	136,678	2,498	659	284,590	1956
22,676	30,168	117,452	2,301	653	173,250	1957
18,061	76,469	94,930	6,279	176	195,914	1958
61,014	76,668	89,686	3,262	505	231,141	Aver.

CHIGNIK (Cases)

YEAR	Reds	Pinks	Chums	Cohoes	Kings	TOTAL
1935	60,808	19,504	17,027	1,611	127	99,077
1936	100,499	35,917	10,278	4,643	108	151,455
1937	52,727	57,620	10,193	1,626	154	122,320
1938	35,117	12,071	6,792	2,254	148	56,412
1939	142,770	13,744	6,874	728	377	164,493
1940	27,772	4,083	2,349	20	...	34,224
1941	59,373	16,373	15,345	2,322	316	93,729
1942	56,977	22,962	11,853	1,093	378	93,263
1943	110,086	4,265	4,638	1,924	290	121,203
1944	47,448	29,283	6,221	1,223	442	84,617
1945	18,666	18,381	11,582	638	222	49,489
1946	70,817	39,544	22,049	695	305	133,410
1947	146,788	23,640	5,417	512	111	176,468
1948	33,574	47,393	31,348	79	79	112,473
1949	54,146	3,976	11,210	512	129	69,973
1950	31,644	28,737	8,885	1,135	127	70,528
1951	25,857	18,576	16,135	719	231	61,518
1952	14,852	23,113	49,359	94	20	87,438
1953	37,758	32,186	46,738	88	127	116,897
1954	11,078	29,000	38,046	93	45	78,262
1955	31,070	29,484	25,753	2	114	86,423
1956	64,071	21,149	30,934	698	40	116,892
1957	28,248	14,529	21,746	422	137	65,082
1958	26,424	18,884	31,871	94	81	77,354
Aver.	32,515	21,963	28,068	386	105	83,037

KODIAK AREA (Cases)

Reds	Pinks	Chums	Cohoes	Kings	TOTAL	YEAR
119,720	534,083	42,130	6,753	350	703,036	1935
202,983	394,025	39,248	17,548	620	654,424	1936
120,674	769,055	29,353	14,179	357	933,618	1937
142,112	450,098	69,792	14,716	316	677,034	1938
115,604	603,492	62,185	9,442	651	791,374	1939
93,751	443,154	60,332	14,246	313	611,796	1940
121,725	508,306	57,368	22,854	638	710,891	1941
83,340	313,711	76,563	10,751	363	484,728	1942
129,105	555,209	41,766	5,682	308	730,070	1943
142,212	335,683	56,035	5,623	183	539,736	1944
154,513	491,346	64,957	5,640	521	716,977	1945
65,810	541,334	37,817	3,982	34	648,977	1946
85,805	494,211	23,133	6,752	27	609,928	1947
98,030	303,564	93,918	4,046	189	499,747	1948
69,861	208,537	63,632	5,055	803	347,888	1949
64,463	266,694	73,846	5,786	408	411,197	1950
81,117	126,238	89,926	8,842	5,996	312,119	1951
89,888	281,405	141,730	4,678	1,963	519,664	1952
47,451	273,344	68,239	5,143	328	394,505	1953
34,643	382,779	141,682	6,597	682	566,383	1954
17,923	525,322	54,290	3,059	78	600,672	1955
29,461	136,127	62,970	4,990	157	253,705	1956
15,643	232,975	96,680	3,885	63	349,246	1957
18,803	254,320	91,704	3,304	95	368,226	1958
46,925	270,774	88,470	5,134	1,057	412,361	Aver.

COOK INLET (Cases)

YEAR	Reds	Pinks	Chums	Cohoes	Kings	TOTAL
1935	104,694	22,506	14,400	14,977	18,863	175,440
1936	188,063	51,350	23,780	31,345	19,723	314,261
1937	109,471	21,528	12,976	14,005	24,674	182,654
1938	170,725	54,894	16,260	32,745	16,060	290,684
1939	183,304	15,570	20,726	13,076	16,554	249,230
1940	129,952	122,437	26,695	46,015	15,995	341,093
1941	90,885	38,235	24,706	31,105	27,448	212,379
1942	98,418	55,722	40,110	61,734	28,617	284,604
1943	102,746	60,540	26,292	23,447	30,963	243,988
1944	156,799	96,694	23,311	25,442	25,668	327,914
1945	118,849	54,370	28,302	28,718	22,420	252,659
1946	105,065	60,101	31,593	35,835	17,191	249,785
1947	106,180	30,073	21,183	34,430	30,718	222,584
1948	133,828	75,678	38,086	29,462	32,688	309,742
1949	165,588	19,139	21,844	26,783	31,234	264,588
1950	207,032	62,528	52,572	63,565	34,247	419,944
1951	171,030	24,296	21,884	27,707	59,973	304,890
1952	94,951	115,666	30,095	20,252	22,931	283,895
1953	101,206	27,208	41,457	18,880	28,952	217,703
1954	105,571	133,864	85,083	33,318	23,995	381,831
1955	79,006	62,454	29,450	13,698	15,034	199,642
1956	110,186	80,081	85,172	16,918	16,995	309,352
1957	58,102	18,709	122,146	9,713	12,549	221,219
1958	38,362	171,946	63,126	20,693	6,601	300,728
Aver.	113,103	71,589	55,183	25,153	25,251	290,379

PRINCE WILLIAM SOUND and RESURRECTION BAY (Cases)

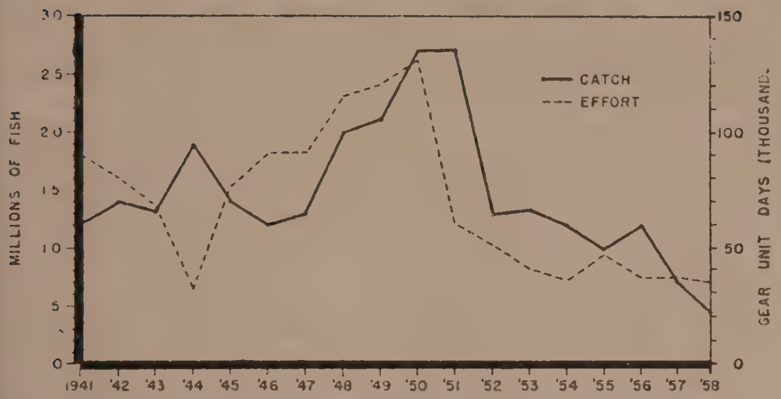
Reds	Pinks	Chums	Cohoes	Kings	TOTAL	YEAR
16,096	201,756	53,226	3,447	621	275,146	1935
13,440	609,537	23,660	5,245	431	652,313	1936
8,492	182,762	21,941	6,651	329	220,175	1937
10,615	461,114	31,218	6,846	251	510,044	1938
12,390	129,491	28,756	3,858	257	174,752	1939
7,065	521,745	54,001	10,257	182	593,250	1940
7,083	217,007	73,776	6,430	100	304,396	1941
13,289	366,965	82,633	13,703	449	477,039	1942
9,285	511,818	30,620	8,237	2,595	562,555	1943
12,741	416,848	118,159	7,902	158	555,808	1944
17,382	493,482	154,080	4,941	102	669,987	1945
10,432	317,329	76,003	16,037	408	420,209	1946
17,955	380,017	65,018	7,270	180	470,440	1947
19,115	123,411	47,008	5,048	74	194,656	1948
8,423	275,830	83,195	13,016	167	380,631	1949
7,179	111,838	57,464	12,441	88	189,010	1950
66,871	47,249	56,680	30,555	5,195	206,550	1951
107,471	118,905	68,430	37,987	9,231	342,024	1952
5,355	124,122	34,929	4,454	37	168,897	1953
1,688	1,240	1,670	603	.....	5,201	1954
1,864	5,941	1,602	663	.....	10,070	1955
15,771	186,537	49,334	3,678	31	255,351	1956
6,323	35,431	74,706	1,891	171	118,522	1957
1,001	296,140	75,408	529	2	373,080	1958
22,195	120,322	50,342	10,582	1,492	204,933	Aver.

COPPER and BERING RIVER AREA (Cases)

YEAR	Reds	Cohoes	Kings	TOTAL	REGIONAL GRAND TOTAL
1935	8,453	9,385	760	18,598	1,802,231
1936	75,296	15	2,513	77,824	2,869,691
1937	78,238	5,463	3,868	87,569	2,216,359
1938	65,777	155	2,514	68,446	2,179,765
1939	52,285	1,116	2,192	55,593	2,011,910
1940	37,847	30,521	1,337	69,705	2,326,869
1941	36,868	83,142	3,067	123,077	1,958,969
1942	47,849	84,322	5,262	137,433	1,954,157
1943	57,418	21,837	4,893	84,148	2,165,306
1944	62,780	34,949	2,517	100,246	1,877,381
1945	70,744	41,103	6,037	117,884	2,091,739
1946	45,645	25,821	7,145	78,611	1,772,318
1947	30,717	22,231	3,596	56,544	1,822,007
1948	13,536	28,405	1,237	43,180	1,335,791
1949	46,404	15,986	1,964	64,354	1,288,163
1950	70,592	18,997	4,517	94,106	1,464,654
1951	39,963	24,513	3,737	68,213	1,131,994
1952	103,533	1,605	9,337	114,475	1,565,035
1953	51,136	3,884	3,163	58,183	1,372,725
1954	102,850	33,035	4,336	140,221	1,397,778
1955	56,071	27,610	5,840	89,521	1,164,727
1956	49,023	20,242	3,330	72,595	1,292,485
1957	48,994	10,198	2,149	61,341	988,660
1958	28,238	9,285	2,219	39,742	1,355,044
Aver.	59,680	16,536	4,059	80,275	1,302,126

NOTE: Figures are based on U.S. Fish & Wildlife Service final data, which DO NOT include fish caught in these areas and canned elsewhere, and accordingly are somewhat different from those in other tables compiled independently by PACIFIC FISHERMAN. Figures for the latest year shown are preliminary. "Average" figures are for the last ten years

Cook Inlet Red Salmon Catch and Effort



new Pink salmon run has developed along the east shore of the upper Inlet in early August of the even-numbered years. Chum salmon occur in variable but often substantial abundance along with the Red salmon in July. Coho salmon support a very small fishery the latter part of August.

PRINCE WILLIAM SOUND

• Prince William Sound District is characterized by some 200 short spawning streams with capacities of from 1,000 to 60,000 Pink salmon, and much of the successful spawning of this species occurs in the intertidal zones. A feature peculiar to this area is that there is little natural estuarine protection, and the salmon are either in the area of the commercial fishery or on the spawning grounds — sometimes both simultaneously. Average salmon production in Prince William Sound consists of 55% Pink, 25% Chum, 13% Red, 6% Coho, and 1% King. Seines and traps are used to harvest the catch, which takes place from mid-July through early August.

The 1958 Pink salmon run in the Sound was the best in the past 11 years. The pack of some 300,000 cases was well above the annual average of 172,000 for the past 10 operating years and made up over 80% of the 1958 total pack, which included all species. In addition to the good commercial harvest, an excellent escapement occurred. In 1954 and 1955 all commercial fishing for salmon in Prince William Sound was closed, except at Eshamy which is the major Red salmon producing area in the Sound. Owing to a low cycle of abundance in Red salmon, the Eshamy District was closed to fishing in 1958. No improvement is expected in this area in 1959.

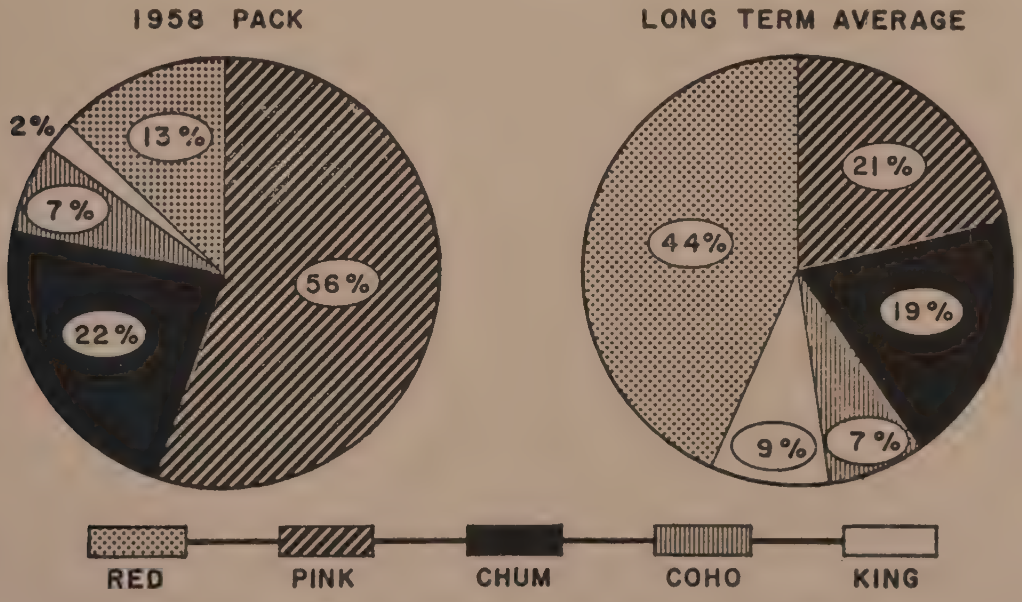
Significantly, in contrast to the even-year production, the odd-year Pink salmon run in Prince William Sound is at a minimal commercial level. In 1957 a total run of less than a million fish was indicated from an estimated escapement of 100,000 and a pack of 35,000 cases. In comparison, the 1958 estimated total run was 8 million fish.

A troll fishery developed off Middleton Island for the first time this year. During a six-week period a fleet of some 30 boats produced 210,000 pounds of salmon, about 45% King and 55% Coho.

Research efforts in the Prince William Sound district were directed toward developing two methods of predicting the magnitude of returning adult runs of Pink and Chum salmon.

The first method, an enumeration of Pink and Chum salmon fry, saw continuation and expansion of an extensive fry sampling program that was initiated in 1957. Migrant trapping stations were operated on six streams to determine production of upstream areas, and on 14 streams to determine intertidal zone production. The importance of intertidal spawning to overall production in Prince William Sound is evident from the fact that one-half to three-fourths of all spawning occurs in this zone.

The 1958 outmigration in the six



Cook Inlet 1958 Salmon Pack and Long-Term Average

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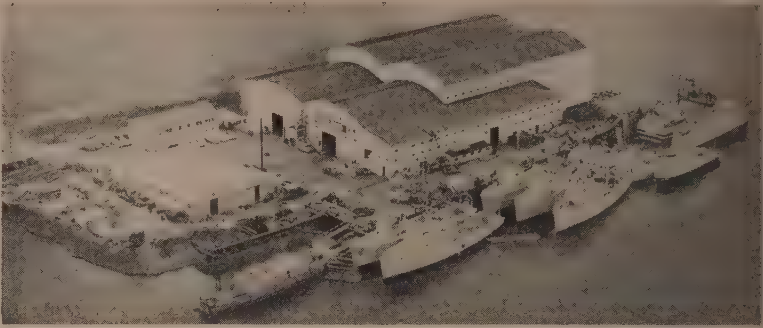

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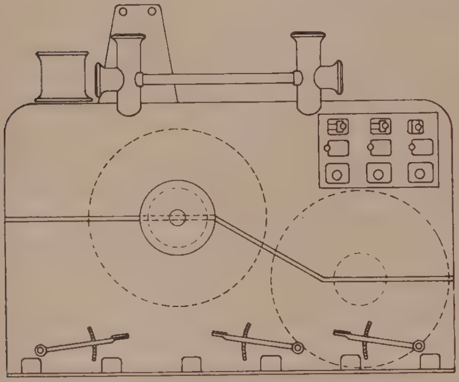

Design drawing of the NORTHERN SEINE WINCH built especially for the longer nets and heavier gear used by today's tuna seiner. All types of drive available—Electric, Torque Converter, Full Hydraulic or Mechanical. Controls for all drives are centralized for simple, one-man operation.

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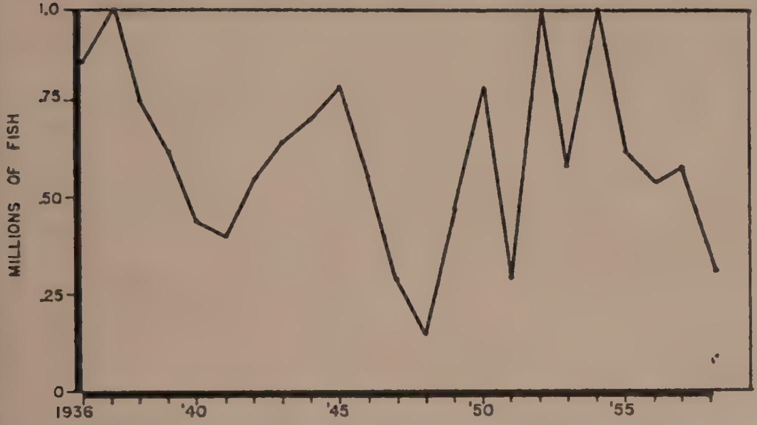


Copper River Red Salmon Catch

study streams was estimated at 1.1 million Pink salmon fry, compared with 3.5 million for 1957. There was considerable variation in production between streams. The size of the fry migrations by streams in 1958 varied between 1% and 109% of the 1957 outmigration.

B. C. F. biologists feel more data are needed before a forecast of adult returns, based on the magnitude of the fry migration, can be made. Present evidence indicates the run in 1959 will be much poorer than it was in 1958.

Official Bureau of Commercial Fisheries analysis says:

"The most probable reurn in 1959 is about 500,000 Pink salmon. The odds are 2 to 1 that the return will be between 0 and 2.1 million fish. There is about 1 chance in 20 that the run will be greater than 3.7 million."

● In view of this unpromising outlook for the Pink salmon run of 1959, and the obvious necessity of securing a productive escapement from a scant run, the outlook for activity on Prince William Sound during the 1959 season is not bright. This situation is further emphasized by the uncertainties surrounding the status of salmon traps in Alaska waters, in view of the declared intention of the Secretary of the interior to eliminate this form of gear through the terms of the 1959 Alaska Fishery Regulations; plus the orders of the Governor of Alaska to withhold licenses from salmon traps for the current year.

Copper River 1958 Yield Only Half Decade Average

● Except for trolling, which is permitted off Yakataga, gill nets are used exclusively in the estuarine fisheries of the Copper River area, which extends from the western extremity of the river delta to Icy Bay. The Copper and Bering Rivers are the principal producers of salmon in this area, and both are fished for Red, King, and Coho salmon from early May to mid-September. The Yakataga district has two small Coho fisheries, the Tsiu and Kaliakh, which are fished from early August to mid-September.

The total 1958 production of the Copper and Bering Rivers consisted of 28,000 cases of Red salmon, 9,000 Coho, and 2,000 King — about one-half the average of the past ten years. The Yakataga production of 10,000 Coho salmon, most of which were from the Kaliakh River, was slightly below the average for the past six years.

ACKNOWLEDGEMENT

● Graphs presenting current data on the Alaska fisheries were prepared by the Alaska Regional office of the U. S. Bureau of Commercial Fisheries, Juneau, for its 1958 Progress Report on Alaska Fisheries Management and Research.

We also have drawn heavily upon this Progress Report in the accompanying review of 1958 production and escapements in the Alaska fisheries, and in the brief summaries of research investigations into the problems of Alaska fisheries.

The Progress Report continues under John T. Gharrett, regional administrator, the excellent series of these current accountings initiated under his predecessor, Donald R. McKernan, now director, U. S. Bureau of Commercial Fisheries. Dr. Norman Wilimovsky is editor of the Progress Report for 1958.

Information obtained pertinent to the substantial subsistence fishery in the Copper River tributaries, indicated 30 fish wheels were used by local residents, who took 12,000 Red and 500 King salmon for their personal use and for dog food. Spawning ground observations made during the season, plus aerial surveys, indicated a good escapement of Red, King, and Coho salmon.

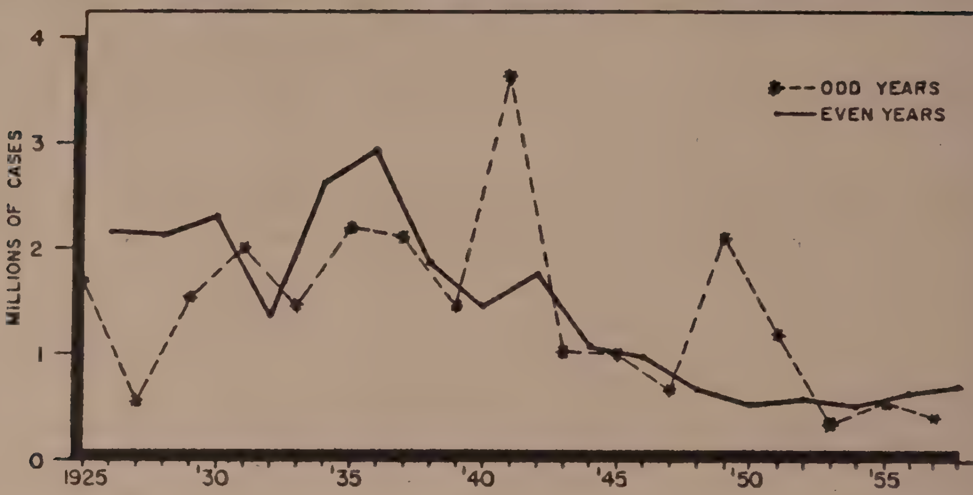
Earthquake Affects Yakutat Salmon Production in 1958

● Salmon fishery of the Yakutat District, which extends from Icy Bay to Cape Fairweather, poses management problems not found elsewhere in Alaska. Many of the streams are geologically "young" and have developed fish runs within recent times. Coho salmon was the first species to populate this virgin area and, except for strays of other species, is still dominant in the newer stream systems. The rivers of the area have not yet developed estuaries and empty directly into the Gulf of Alaska. Consequently, although there is some trolling in offshore waters, practically all the commercial fishery is conducted with set gill nets placed in the rivers. In this respect the Yakutat fishery differs from all other salmon fisheries in Alaska.

In 1958 the fishing season was interrupted by an earthquake on July 12. Continuing tremors kept fishermen away from the fishing grounds for several days. The effect this had on the total Yakutat salmon run is unknown. The Pink and Chum salmon fisheries produced 60,000 and 20,000 fish respectively. Both figures are in excess of the averages for the past ten years of 33,000 Pink salmon and 13,000 Chum. The 45,000 Red salmon and 55,000 Coho produced in 1958 are about one-half the average for the past 10 years. At present the major part of the King salmon run in the Alsek River is protected from the fishery in an attempt to restore this run to its former abundance.

Escapement figures are difficult to obtain in silted rivers, such as Alsek, Akwe, Dangerous, and Yahtse. However, for all species of salmon, except Coho and Chum, the escapement that was observed was in excess of the commercial catch. The Situk River had a favorable escapement of 70,000 Pink salmon and about 40,000 Red salmon.

S. E. Alaska Pink Salmon Packs, Odd and Even Years



Southeast Alaska Canned Salmon Packs by Subdivisions

(CASES)

YAKUTAT AREA						YEAR	CAPE FAIRWEATHER - DIXON ENTRANCE*					
Reds	Pinks	Chums	Cohoes	Kings	TOTAL		Reds	Pinks	Chums	Cohoes	Kings	TOTAL
22,545	9,737	105	13,609	1,102	47,098	1936	195,462	2,915,407	778,234	121,113	19,403	4,029,619
17,470	7,826	385	11,242	1,794	38,717	1937	150,274	2,135,342	503,381	77,283	28,899	2,895,179
27,211	7,417	397	26,854	1,450	63,329	1938	165,380	1,879,352	474,056	116,911	14,920	2,650,619
25,463	2,237	47	9,301	1,629	38,677	1939	169,895	1,473,121	296,057	56,935	812	1,996,820
14,947	4,962	164	27,747	511	48,331	1940	110,661	1,453,109	485,623	128,333	713	2,178,439
18,624	4,505	566	41,402	799	65,896	1941	119,235	3,636,256	319,372	152,569	1,005	4,228,437
11,005	2,465	10	21,513	96	35,089	1942	105,506	1,753,582	596,171	156,409	1,950	2,613,618
18,096	1,618	...	12,606	234	32,554	1943	67,247	1,036,821	673,692	80,928	1,626	1,860,314
15,386	3,447	3	14,301	789	33,926	1944	116,922	1,082,648	663,505	74,543	1,008	1,938,626
18,079	795	105	18,018	576	37,573	1945	111,717	1,040,854	266,732	90,687	1,980	1,511,970
4,081	1,939	23	4,056	358	10,457	1946	54,348	997,975	322,597	88,891	2,058	1,465,869
5,632	1,169	255	4,052	160	11,268	1947	50,276	679,648	257,689	69,490	3,843	1,060,943
3,589	4,042	506	10,840	305	19,282	1948	36,118	680,400	406,887	148,384	5,380	1,277,169
..	...	No operation in 1949		...	...	1949	39,552	2,103,982	243,483	124,919	1,015	2,512,951
9,154	1,873	647	6,252	271	18,197	1950	36,720	533,789	499,775	110,092	195	1,180,571
11,748	1,675	725	11,732	95	25,975	1951	58,569	1,224,907	465,609	252,661	541	2,002,287
5,425	1,813	1,302	19,113	660	28,313	1952	69,085	591,609	526,658	103,164	2,096	1,292,612
.	. .	No operation in 1953		...	...	1953	125,958	353,247	410,384	86,479	1,414	977,482
	. .	No operation in 1954		...	...	1954	112,711	524,220	589,800	82,839	2,542	1,312,112
..	. .	No operation in 1955		...	...	1955	55,049	544,555	177,311	61,171	1,666	839,752
..	. .	No operation in 1956		...	...	1956	72,851	634,272	294,282	46,497	1,272	1,049,174
..	. .	No operation in 1957		...	...	1957	82,512	404,221	364,756	57,547	1,358	910,394
	.	No operation in 1958		...	...	1958	81,867	702,899	357,126	51,312	843	1,194,047
2,633	536	267	3,710	103	7,249	Aver.	73,488	761,770	392,919	97,668	1,294	1,327,138

ICY STRAIT DISTRICT							WESTERN DISTRICT					
Reds	Pinks	Chums	Cohoes	Kings	TOTAL		Reds	Pinks	Chums	Cohoes	Kings	TOTAL
69,191	349,700	183,036	20,791	5,583	628,301	1936	25,290	242,902	148,839	12,503	2,774	432,308
39,640	208,448	56,621	6,906	405	312,020	1937	18,477	194,675	90,053	5,616	24	308,845
46,526	158,698	52,890	14,058	215	272,387	1938	20,868	163,377	56,116	8,394	48	248,803
46,675	78,127	38,943	3,615	151	167,511	1939	24,839	87,137	35,328	3,628	36	150,968
18,840	121 320	74,615	13,409	262	228,452	1940	13,319	176,542	100,444	16,400	58	306,763
8,948	218,163	17,418	10,231	232	254,992	1941	16,962	562,046	56,078	22,368	456	657,910
10,964	118,790	44,834	8,311	248	183,147	1942	15,193	339,504	130,855	26,112	71	511,735
11,397	60,881	63,985	3,147	124	139,534	1943	16,266	123,318	177,210	9,039	55	325,888
21,568	123,896	67,537	3,830	77	216,908	1944	21,771	277,172	191,816	7,384	7	498,150
13,827	45,971	25,095	4,789	278	89,960	1945	23,247	109,183	65,431	6,585	19	204,465
6,315	26,449	31,376	4,436	60	68,636	1946	14,813	81,192	74,500	6,837	479	177,821
6,504	30,952	14,498	3,014	118	55,086	1947	17,718	92,612	57,592	14,658	837	183,417
501	2,745	6,893	1,239	...	11,378	1948	11,308	54,905	64,803	37,562	555	169,133
5,665	51,485	29,760	10,436	41	97,387	1949	12,580	378,876	43,136	29,721	442	464,755
3,362	3,287	25,164	5,473	22	37,308	1950	17,363	24,846	60,584	29,992	54	132,839
8,616	30,315	33,741	13,369	142	86,183	1951	16,195	147,996	107,998	65,040	6	337,235
11,169	17,919	26,184	7,355	217	62,844	1952	13,642	84,743	82,371	18,130	208	199,094
21,660	11,830	26,669	20,739	430	81,328	1953	26,068	34,900	108,921	3,167	86	173,142
8,590	13,369	25,831	1,547	90	49,427	1954	48,894	68,892	261,740	32,410	83	412,019
3,847	19,134	19,638	3,809	105	46,533	1955	26,045	87,457	79,547	15,752	256	209,057
8,958	12,669	16,920	4,065	181	42,793	1956	30,661	68,762	72,064	13,676	522	185,685
16,438	18,328	54,580	19,944	344	109,634	1957	21,312	54,289	96,217	6,296	148	178,262
10,619	28,142	35,641	13,755	396	88,553	1958	17,700	79,793	97,820	3,841	97	199,251
9,893	20,648	29,413	10,050	197	70,200	Aver.	23,046	103,056	101,040	21,802	190	249,134

*Cape Fairweather to Dixon Entrance comprises all Southeast Alaska with the exception of Yakutat, therefore figures in this section are the total of all the following districts. Final data for Southeast Alaska has not been reported by subdivisions since 1949. Catch canned at Icy Strait and Wrangell plants.

NOTE: Figures are based on U.S. Fish & Wildlife Service final data, which do not include fish caught in these areas and canned elsewhere, and accordingly are somewhat different from those in other tables compiled independently by PACIFIC FISHERMAN. Figures for the latest year shown are preliminary. "Average" figures are for the last ten years.

- Southeast Alaska 1958 Pink salmon pack of 692,000 cases compared favorably with the average for the past decade of 750,000 cases and was the best pack since 1951.

Twenty-one plants operated, some of which represented consolidations of two or more companies. About one-half of the Pink salmon pack came from the Ketchikan area, of which the Southern District and the southeastern section of Clarence Strait were the most productive. The escapement from the total run was good, with gains in total escapement over the parent year in early-, middle-, and late-run streams in the Southern District. Elsewhere the total escapement was about equal to the parent year, except in Icy Strait, Tenakee Inlet, Peril Strait, and Sumner Strait, where the middle- and late-run streams were below the parent year.

Better to utilize the Lake Bay Red salmon run, the southern limit of that gill net fishery was extended this year to Luck Point. Forty thousand Red salmon were taken in the combined Red Bay-Salmon Bay-Lake Bay fishery as compared with 3,000 in 1957. The total for all species was approximately 58,000, including 12,000 Pink salmon, 4,000 Chum, 1,800 Coho, and 230 King. A satisfactory escapement occurred in Lake Bay.

The Portland Canal gill net fishery produced about 125,000 fish, of which 85,000 were Chum salmon, 30,000 Pink, 5,000 Red, 4,000 Coho, and 240 King. All of the Alaskan tributaries to Portland Canal had satisfactory escapements.

The Lynn Canal gill net fishery was active throughout the season, with a Red salmon catch of 90,000 fish equal to the average of the past 10 years, while the Chum salmon catch, except for the unusual take in 1957, exceeded that of any recent season. Escapement of both species was satisfactory.

Taku River production of approximately 20,000 Red salmon was the lowest since 1946. The catch of King salmon was up to about 15,000, the

Southeast Alaska Canned Salmon Pack by Subdivisions

EASTERN DISTRICT (Cases)						YEAR	WRANGELL DISTRICT (Cases)					
Reds	Pinks	Chums	Cohoes	Kings	TOTAL		Reds	Pinks	Chums	Cohoes	Kings	TOTAL
16,687	284,097	135,981	14,698	5,016	456,479	1936	25,405	326,866	93,544	27,726	1,085	474,626
8,923	323,556	65,931	6,904	8,257	413,571	1937	22,067	383,115	61,189	22,378	1,959	490,708
14,244	260,145	58,041	13,245	4,794	350,469	1938	18,492	217,161	59,652	20,433	86	315,824
11,730	217,432	53,199	7,179	317	289,857	1939	17,137	318,808	40,525	12,712	18	389,200
7,332	224,495	76,621	9,588	261	318,297	1940	21,306	165,783	73,544	32,040	26	292,699
9,079	601,161	64,880	9,210	113	684,443	1941	28,709	633,163	33,587	35,343	10	730,812
8,139	254,772	74,580	12,108	271	349,870	1942	22,212	167,742	67,652	42,730	895	301,231
7,192	93,048	110,912	5,452	799	217,403	1943	11,618½	120,730	80,696	17,431½	68	230,544
10,905	116,501	109,884	5,384	426	243,100	1944	16,065	59,256	66,069	9,024	17	150,431
10,168	94,505	29,267	4,010	207	138,157	1945	17,600	118,531	17,603	15,571	101	169,406
6,082	29,636	21,480	4,622	122	61,942	1946	6,417	66,258	16,017	18,894	173	107,759
5,342	38,272	28,935	3,960	510	77,019	1947	6,226	99,343	23,870	11,315	2,308	143,062
4,240	13,308	15,378	12,542	1,736	47,204	1948	7,260	53,860	55,460	22,799	2,971	142,350
92	43,944	6,055	8,661		58,752	1949	9,573	312,318	22,417	17,176	563	362,047
5,015	13,028	32,096	3,096	183	53,418	1950	7,190	36,846	44,815	30,849	55	119,755
1,146	74,522	68,391	20,777	168	165,004	1951	16,405	189,750	88,994	81,353	315	376,817
1,986	51,015	41,246	6,468	2	100,717	1952	13,445	78,552	80,763	30,359	1,413	204,532
8,713	12,333	25,930	3,905	6	50,887	1953	19,281	40,718	84,904	22,356	645	167,904
2,323	15,057	59,044	800	23	77,247	1954	21,116	65,357	110,282	20,844	1,633	219,232
2,143	40,054	13,757	3,517	100	59,571	1955	8,205	122,563	25,137	14,526	472	170,903
3,142	27,187	21,743	1,795	103	53,970	1956	8,720	98,075	40,116	9,456	362	156,729
849	1,460	2,972	85	26	5,392	1957	12,481	78,692	73,409	7,583	715	172,880
1,211	5,154	5,029	1,513	21	12,928	1958	16,124	158,997	91,303	8,322	264	275,010
2,662	39,779	27,626	5,062	63	63,788	Aver.	13,254	118,187	66,214	24,282	643	222,581

SOUTH PRINCE OF WALES ISLAND DISTRICT (Cases)					YEAR	SOUTHERN DISTRICT (Cases)					REGIONAL GRAND TOTAL
Reds	Pinks	Chums	Cohoes	TOTAL		Reds	Pinks	Chums	Cohoes	TOTAL	
25,716	620,300	104,038	33,170	783,224	1936	60,217	1,222,241	192,641	32,834	1,507,933	4,067,717
23,545	345,068	65,613	33,908	468,134	1937	36,031	671,257	165,508	17,098	889,894	2,933,896
20,395	329,083	81,737	39,708	470,923	1938	44,399	749,432	162,473	27,346	983,650	2,713,948
22,107	207,989	45,249	11,648	286,902	1939	46,699	549,500	80,549	16,427	693,175	2,035,497
11,283	251,718	58,655	19,001	340,657	1940	36,652	503,005	98,092	35,881	673,630	2,226,770
11,548	584,582	55,624	33,178	684,932	1941	42,980	1,012,240	89,384	38,846	1,183,450	4,294,333
12,091	337,418	96,628	36,901	483,038	1942	37,713	533,057	181,262	28,308	780,340	2,648,707
5,656	162,482	75,217	15,780	259,135	1943	23,660	473,156	165,752	29,537	692,105	1,892,868
7,790	144,209	94,371	18,816	265,186	1944	38,465	349,073	132,735	29,482	549,755	1,872,552
11,217	225,606	43,240	26,274	306,337	1945	33,735	418,327	77,829	30,873	560,764	1,506,662
6,141	203,887	67,452	17,340	294,820	1946	16,994	582,377	101,901	35,336	736,608	1,458,043
4,626	110,324	42,141	12,150	169,241	1947	9,279	308,929	88,107	22,248	428,563	1,067,656
2,886	163,397	64,240	26,125	256,648	1948	9,661	388,325	192,232	39,446	629,664	1,275,659
3,014	406,385	41,200	17,701	468,300	1949	8,561	909,596	100,512	41,364	1,060,033	2,511,274
2,591	182,381	83,659	16,199	284,830	1950	6,231	273,449	247,876	28,779	556,335	1,202,682
4,686	127,347	44,407	27,598	204,038	1951	23,438	582,425	124,633	38,474	768,970	1,964,222
10,952	103,694	28,715	15,632	158,993	1952	17,775	241,256	250,056	25,748	534,835	1,289,328
17,320	102,773	24,824	14,673	159,590	1953	32,916	150,693	139,136	21,886	344,631	977,482
15,235	53,063	43,073	10,435	121,806	1954	16,553	308,482	89,830	17,516	432,381	1,312,112
5,261	77,154	12,053	5,500	99,968	1955	9,548	198,193	27,179	18,800	253,720	839,752
6,646	127,465	27,269	7,683	169,063	1956	14,724	300,114	116,170	9,926	440,934	1,048,174
13,628	131,094	20,515	10,934	176,171	1957	17,804	120,358	117,063	12,830	268,055	916,394
6,881	94,225	26,431	7,647	135,199	1958	29,332	336,588	100,902	16,284	483,106	1,194,047
8,622	140,558	35,214	13,400	197,796	Aver.	16,688	343,115	130,336	23,161	514,299	1,325,047

NOTE: -- Small quantities of Kings have been included with Cohoes in the last two districts listed. Final data for Southeast Alaska has not been reported by subdivisions since 1949. Figures are based on U. S. Fish and Wildlife Service final data, which DO NOT include fish caught in these areas and canned elsewhere, and accordingly are somewhat different from those in other tables compiled independently by PACIFIC FISHERMAN. Figures for the latest year shown are preliminary. "Average" figures are for the last ten years

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best since 1954, and the Coho and Chum catches were about equal to last year which were considered average. The Pink salmon catch of 65,000 was in excess of any year since 1951 when 75,000 fish were taken. The King salmon combined escapement of 16,000 into both the Inklin and Nakina Rivers, tributaries of the Taku, was the best since 1951. Escapement of Pink salmon, while not believed to be equal to 1951, was considered good. Coho and Chum escapements were fair, and Red salmon escapement was poor.

Snettisham production and escapement were short in all species this year.

The Stikine production of 25,000 Red salmon, 10,000 King, 50,000 Coho, 30,000 Chum, and 19,00 Pink is in excess of any of the last four years, except for the King salmon production, which was down about 3,000 fish. Escapement of King salmon in the Little Tahltan River, a tributary of the Stikine, appeared to be equal to that of 1956, which was considerably better than 1957. Surveys of Red salmon, which were limited to one observation per stream, showed escapement to be about half that of 1957.

● For the second year, an extensive enumeration project was conducted in Southeastern Alaska by the U. S. B. C. F. research staff to determine the production of Pink salmon fry in the southerrn half of the Panhandle. This is one of two methods being evaluated as a means of predicting the abundance of Pink salmon.

Ten migrant stations, all located within the inside waters of the southern half of Southeastern Alaska, were operated during the spring of 1958. In spite of the much lighter spawning escapements of Pink salmon in 1957 than in 1956, total fry production for the two years was similar. This was due to the greater rate of survival, brought about by extremely mild weather conditions in the winter of 1957-58.

Comparison of the fry migrations in the 10 streams sampled the past two seasons shows two major streams, Anan Creek and Naha River, produced a greater number of fry in 1958; while another large river, the Wilson, had an outmigration in 1958 only half as large as in 1957. Five of the seven smaller streams showed declines, and one was much improved. Although the overall fry migration appeared to be slightly greater, biologists felt an optimistic prediction for Pink salmon adults in 1959 could not be fully justified in view of the reduced abundance in 1957 of young fish in

1958-SOUTHEAST ALASKA CANNED SALMON PACK

COMPANY	CANNERY LOCATION	RED or SOCKEYE			PINK			CHUM			COHO			KING	GRAND TOTAL (full cases)
		1-lb. Talls etc.	1/2-lb. Flats (8 doz.)	TOTAL	1-lb. Talls etc.	1/2-lb. Flats (8 doz.)	TOTAL	1-lb. Talls etc.	1/2-lb. Flats (8 doz.)	TOTAL	1-lb. Talls etc.	1/2-lb. Flats (8 doz.)	TOTAL	1-lb. Talls etc.	
Annette Islands Canning Co.	Metlakatla	2,397	940	3,337	36,480	6,688	43,168	17,156	1,392	18,548	1,512	--	1,512	--	66,565
Excursion Inlet Packing Co.	Excursion Inlet	(a) 1,245	7,926	9,171	16,104	13,013	29,117	(a) 38,285	1	38,286	(a) 2,778	5,163	7,941	(a) 373	(a) 84,888
Fidalgo Island Packing Company	Ketchikan	3,053	--	3,053	35,762	--	35,762	10,202	--	10,202	2,452	--	2,452	2	51,471
	Petersburg	366	--	366	4,619	--	4,619	2,170	--	2,170	225	--	225	3	7,383
Haines Packing Company	Haines	1,676	4,768	6,444	136	1,826	1,962	9,416	3,149	12,565	325	87	412	82	21,465
Halferty Canneries, Inc.	Juneau	(b) 720	--	720	(b) 3,179	--	3,179	(b) 2,602	--	2,602	(b) 283	--	283	(b) 21	(b) 6,805
P. E. Harris Company	Hawk Inlet	4,238	--	4,238	22,819	--	22,819	21,049	--	21,049	889	--	889	60	49,055
Hood Bay Salmon Co.	Hood Bay	373	--	373	6,643	--	6,643	14,458	--	14,458	239	--	239	--	21,713
Hydaburg Cooperative Assn.	Hydaburg	1,178	--	1,178	15,727	--	15,727	9,648	--	9,648	667	--	667	4	27,224
Independent Salmon Canneries	Ketchikan	561	--	561	7,208	--	7,208	5,073	--	5,073	231	--	231	--	13,073
Kayler-Dahl Fish Co.	Petersburg	--	(c) 4,384	4,384	3,244	8,250	11,494	12,064	5,500	17,564	500	615	1,115	--	34,557
Keku Canning Co.	Kake	1,190	--	1,190	17,471	--	17,471	13,296	--	13,296	658	--	658	16	32,631
Ketchikan Packing Co.	Ketchikan	1,558	--	1,558	25,361	--	25,361	7,861	--	7,861	864	--	864	--	35,644
Klawock Oceanside Packing Co.	Klawock	785	--	785	16,791	--	16,791	4,305	--	4,305	441	--	441	13	22,335
Libby, McNeill & Libby	Petersburg, Craig, George Inlet	3,418	1,460	4,878	55,955	7,095	63,050	20,663	1,042	21,705	1,858	205	2,063	70	91,766
Nakat Packing Corp.	Waterfall	2,022	677	2,699	19,465	14,425	33,890	6,611	3,259	9,870	837	2,966	3,803	--	50,262
	Ketchikan	7,590	--	7,590	68,616	3,655	72,271	11,227	2,138	13,365	2,269	911	3,180	--	96,406
New England Fish Co.	Ketchikan, Chatham, Noyes Is.	6,041	--	6,041	56,492	11,806	68,298	31,763	743	32,506	4,300	--	4,300	--	111,145
Pacific American Fisheries, Inc.	Petersburg, George Inlet, Pillar Bay	1,779	3,042	4,821	53,310	14,061	67,371	18,133	2,230	20,363	1,586	1,500	3,086	62	95,703
Petersburg Processors, Inc.	Petersburg & Juneau	(d) 132	24	156	(d) 8,832	--	8,832	(d) 4,378	--	4,378	(d) 588	--	588	--	(d) 13,954
Pelican Packing Co.	Pelican	4,046	--	4,046	18,946	--	18,946	21,808	--	21,808	1,214	--	1,214	2	46,016
Petersburg Seafoods, Inc.	Petersburg & Juneau	(e) 66	12	78	(e) 4,416	--	4,416	(e) 2,189	--	2,189	(e) 294	--	294	--	(e) 6,977
Todd Packing Co.	Todd	483	--	483	5,228	--	5,228	3,601	--	3,601	95	--	95	20	9,427
Trans-Pacific Packing Co.	Hawk Inlet	75	--	75	1,158	--	1,158	800	--	800	9	--	9	--	2,042
Wards Cove Packing Co.	Ketchikan	4,650	968	5,618	59,768	2,677	62,445	17,332	287	17,619	3,381	47	3,428	--	89,110
Whitney & Company	Wrangell	4,582	498	5,080	18,149	9,768	27,917	13,223	390	13,613	1,550	730	2,280	--	48,890
Whiz Fish Products Co.	Kake	1,190	--	1,190	17,471	--	17,471	13,296	--	13,296	658	--	658	16	32,631
TOTAL SOUTHEAST ALASKA		55,414	24,699	80,113	599,350	93,264	692,614	332,609	20,131	352,740	30,703	12,224	42,927	744	1,169,138

NOTE:- All figures given in 48-lb. full cases, or equivalent. (a) Includes 4-lb. cans in cases of 12 as follows: Cohoes, 1,048. Chums, 9,425. Also includes 5 cases of Steelheads in 1-lb. talls. (b) All in 4-lb. cans, 12 to the case. (c) Includes quarters, 48-lb. net per case, as follows: Red, 134; Coho, 340. (d) Includes 23 full cases of Red quarters, and 4-lb. 12s as follows: Red, 125; Pink, 8,124; Chum, 3,474. Coho, 392. (e) Includes 11 full cases of Red quarters, 4-lb. 12s as follows. Red, 62, Pink, 4,062; Chum, 1,737; Coho, 196.

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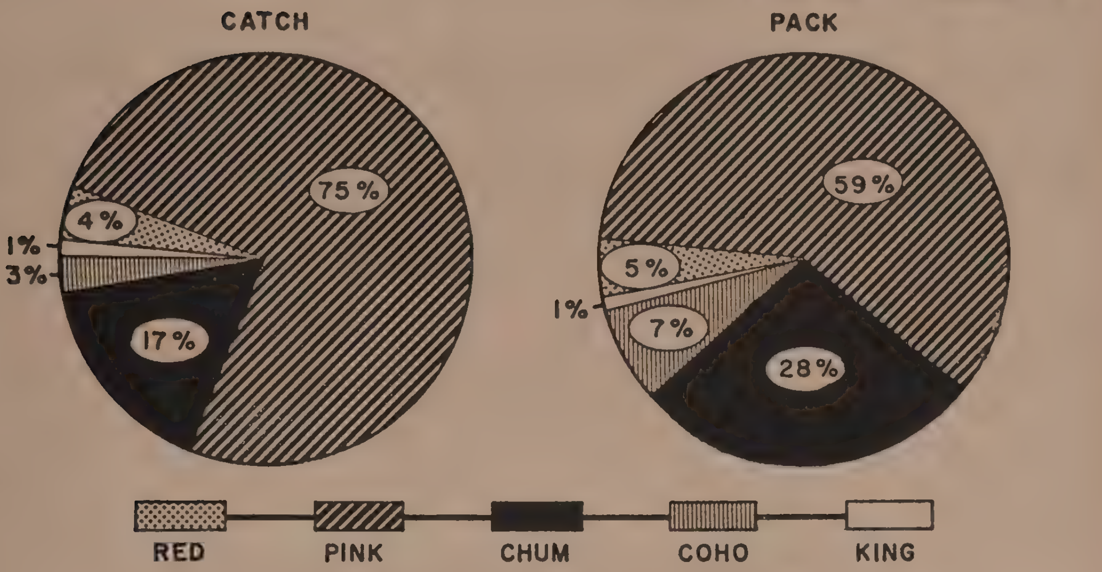

S. E. Alaska Salmon, Long Term Averages

the majority of the smaller streams, which are generally considered to be the backbone of Pink salmon production in this region.

- Fry abundance estimation appears at present to be the more reliable means of predicting adult returns of Pink salmon, but it has not been thoroughly tested, as only one cycle is available for analysis. The fry production in the sample streams and the apparently lower rate of production in the smaller streams generally, indicate an adult return in 1959 similar to or slightly lower than 1958. Although spawning escapement was lower in 1957 than 1956, the stream survival of the young was apparently more favorable, owing to the unusually mild winter conditions while the eggs and larvae were in the gravel. This may compensate for the considerable difference in escapements of adults in 1956 and 1957 and provide an adult yield comparable to that of the past summer.

- The official Bureau of Commercial Fisheries interpretation says:

"Considering the data afforded by the three indices used in predicting the magnitude of the Pink salmon runs; i. e., escapement, fry enumeration, and fingerling enumeration, it is anticipated that the size of the 1959 Pink salmon run in Southeastern Alaska will be between those of 1957 and 1958."

This would put the figure somewhere near a half-million cases, as the Southeast Alaska Pink pack of 1957 was 404,000 cases and that of 1958 was 692,000. The outlook based on these data obviously is not particularly stimulating.

Another factor which was not touched upon by the Bureau of Commercial Fisheries in its study of the probable productivity of 1959 was the effect upon the *catch*, as distinguished from the *run*, of the probable elimination of salmon traps from the new state's fishery in 1959.

Intention to provide in the 1959 Alaska fishery regulations for closure of all Alaska traps was announced by Secretary of the Interior Seaton in the late fall of 1958.

Further threat to trap operation was posed shortly after Governor Egan of Alaska took office in 1959, when he instructed the state authorities not to issue licenses for trap operation.

While it is quite possible, as discussed in some detail elsewhere in this issue, that these two actions may be attacked and estopped in the courts, observers generally were of the belief that the threats would effectively *curtail* trap operation even though it might be found that they could not legally *prevent it.*

Alaska Salmon Canned Elsewhere

Year	From Western Alaska (cases)				From Central Alaska (cases)			From Southeast Alaska (cases)				Grand Total Pack (Cases) (48 lbs.)	Year
	Red	Chum	Other Species	Total	Pink	Other Species	Total	Pink	Chum	Other Species	Total		
1948*	4,031	535	2,000	(b) 6,566		.	. .	.	.	.	. .	6,566	1948*
1949	10,976	(a) 750	2,536	14,262	.							14,262	1949
1950	12,544	2,905	. . .	15,449				1,335	607	24	1,966	17,415	1950
1951	44,368	1,665	3,814	49,847	805	150	955	1,652	4,257	202	6,111	56,913	1951
1952	100,350	2,397	1,071	103,818	2,909		2,909	4	7,179	462	7,645	114,372	1952
1953	51,133	1,576	11	52,720	10,971	883	11,854	223	7,475	83	7,781	72,355	1953
1954	67,266	2,979	1,637	71,882	9,796	2,430	12,226	4,142	13,031	4,525	21,698	105,806	1954
1955	39,915	3,160	48	43,123	23,461	2,107	25,568	128	23	7,142	7,293	75,984	1955
1956	61,581	2,535	1,788	65,904	14,205	11,117	25,322	2,169	4,408	7,461	14,038	105,264	1956
1957	65,392	1,110	1,907	68,409	2,384	10,771	13,155	228	12,777	3,084	16,089	97,653	1957
1958	400	. . .	. . .	§ 400	. .	4,000	4,000	1,600	5,500	.	7,100	§11,500	1958
AVERAGE	41,632	1,783	1,347	44,762	5,093	3,633	8,726	1,044	5,022	2,090	8,156	61,644	Aver.

* Data prior to 1950 cannot be accurately segregated. Some fish were frozen in Central Alaska and Southeastern Alaska in the years 1948 and 1949, but data available are not felt to be sufficiently accurate for inclusion in this table. Accordingly, reports for these two years are concerned with Bristol Bay only.

Some discrepancy arises from the fact that other tables, for current years, include some fish canned in other parts of Alaska than the areas where caught. Salmon canned anywhere in Alaska is excluded from this table as far as possible. (a) Estimated. (b) "Reefer King" pack only. § 1958 production partly estimated.

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Sockeye Bonanza

● Many factors contributed to making the 1958 salmon season in British Columbia one to be long remembered.

It was a fabulous year for the Fraser River Sockeye, the big-money fish of the industry, and the Sockeyes departed from precedent by following an unusual migratory route and an abnormal time table—two to three late.

Many of the Fraser River's Sockeye chose the inside channel between Vancouver Island and the mainland—Johnstone Strait—as a means of approaching their spawning grounds, in preference to the usually favored outside course around the west coast of the island and through the Strait of Juan de Fuca.

The Sockeyes' behavior confused and sometimes exasperated fishermen, operators and regulatory authorities. The fishermen, with a giant fleet and the most efficient array of gear ever used in the salmon fishery, were thrown off balance when the Sockeye showed up at unusual places at unusual times, and the canners' calculations were similarly upset. The situation, coupled with the exceptional intensity of the fishing effort, made the task of fisheries officials charged with responsibility for conservation measures, increasingly difficult.

But most of these problems and the anxiety that went with them were more than offset by the sheer magnitude of the Sockeye run. Without question it was the greatest Sockeye run to the Adams River-Shuswap Lake area in the 80 years' recorded history of the Fraser's commercial fishery. Altogether, the run probably totalled some 18,500,000 fish, of which American fishermen accounted for about 5,247,000 fish and the Canadians in convention waters 5,221,000 fish. The balance comprises the more-than-adequate escapement and the record catches made by the Canadians in non-convention waters, including Johnstone Strait.

Back in 1913, the year of the disastrous rockslide at Hell's Gate, there was evidence of more than 30,000,000 fish in the Fraser system, but they had originated in several spawning areas such as Quesnel and Chilko in addition to the Adams River and Shuswap Lake.

Adams Run Actually Bigger Than in 1913

● The actual escapement last season was twice as great as was required, but the spawning beds of the Adams River were restricted to about 1,300,000 fish, regarded as a satisfactory number, especially since the spawners were of excellent quality. Overcrowding in the Adams was partly pre-

1958-BRITISH COLUMBIA CANNED SALMON PACK-1958

	#Canneries	(Cases) Sockeye	Springs	Steelheads	Bluebacks	Coho	Pinks	Chums	TOTAL
District No. 1 (FRASER RIVER & HOWE SOUND)	19	1,079,155	10,475	1,213	11,083	121,320	455,518	229.292	1.908.056
Anglo-B.C. Packing Co., Lts. - "Phoenix"									
British Columbia Packers, Ltd. - "Imperial"									
Canadian Fishing Co., Ltd. - "Home"									
Carlyle Packing Co.									
Johnston Fishing & Packing Co., Ltd. - "Glen Rose"									
Francis Millerd & Co., Ltd. - "Great Northern"									
Nelson Bros. Fisheries, Ltd. (Colonial)									
Queen Charlotte Fisheries, Ltd. - "Bidwell"									
Seafood Products, Ltd									
Tulloch Western Fisheries, Ltd.									
District No. 2A (SKEENA & NAAS AREAS)									
Anglo-B.C. Packing Co., Ltd - "North Pacific"									
British Columbia Packers, Ltd. - "Sunnyside"									
Cassiar Packing Co , Ltd. - "Cassiar"									
Canadian Fishing Co., Ltd. - "Oceanside"									
Nelson Bros. Fisheries Ltd. - "Port Edward"									
Babcock Fisheries, Prince Rupert									
District No. 2B (CENTRAL AREAS, etc.)									
British Columbia Packers, Ltd. - "Namu"									
J. H. Todd & Sons, Ltd. - "Klemtu"									
District No 2C (QUEEN CHARLOTTE IS.)									
Queen Charlotte Canners									

NOTE: Figures are preliminary statistics of the Canadian Fisheries Department and are subject to later correction. Publication of statistics for the pack by districts in British Columbia has been discontinued, because present operating practice, in which fish from one district may be canned in another tends to confuse and impair information based on quantities canned within specific areas. Figures are for full cases of 48 one-pound cans or equivalent

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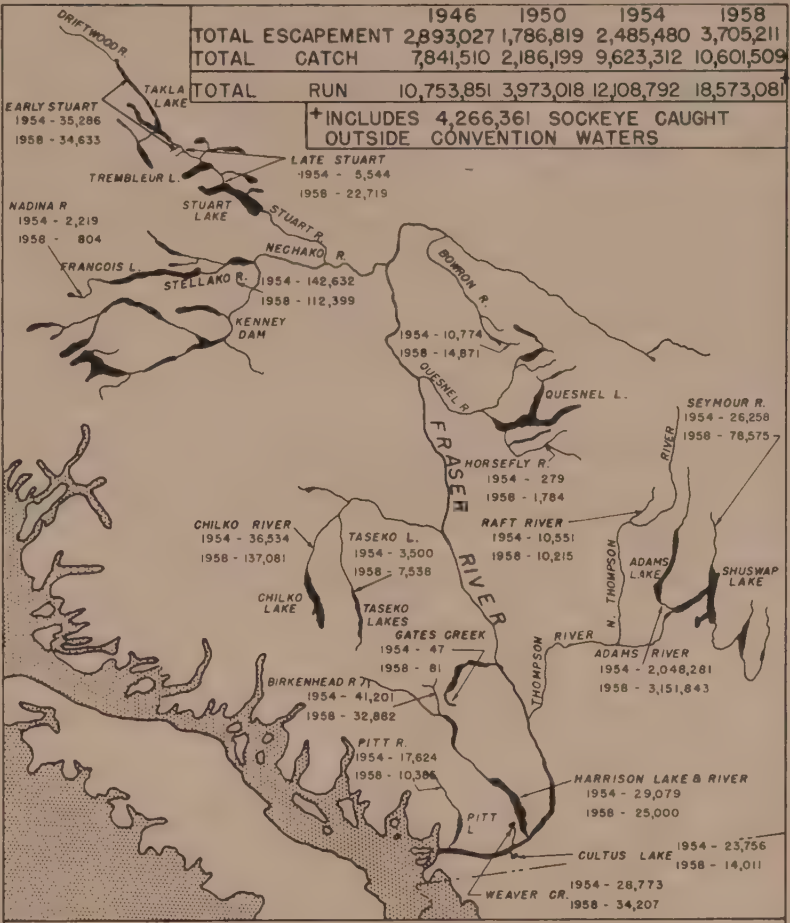

	1946	1950	1954	1958
TOTAL ESCAPEMENT	2,893,027	1,786,819	2,485,480	3,705,211
TOTAL CATCH	7,841,510	2,186,199	9,623,312	10,601,509+
TOTAL RUN	10,753,851	3,973,018	12,108,792	18,573,081

+INCLUDES 4,266,361 SOCKEYE CAUGHT OUTSIDE CONVENTION WATERS

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TAKLA LAKE
EARLY STUART
1954 - 35,286
1958 - 34,633
TREMBLEUR L.
LATE STUART
1954 - 5,544
1958 - 22,719
NADINA R
1954 - 2,219
1958 - 804
STUART LAKE
STUART R.
FRANCOIS L.
NECHAKO R.
STELLAKO R.
1954 - 142,632
1958 - 112,399
KENNEY DAM
BOWRON R.
1954 - 10,774
1958 - 14,871
QUESNEL R.
QUESNEL L.
SEYMOUR R.
1954 - 26,258
1958 - 78,575
RIVER
FRASER
HORSEFLY R.
1954 - 279
1958 - 1,784
RAFT RIVER
1954 - 10,551
1958 - 10,215
CHILKO RIVER
1954 - 36,534
1958 - 137,081
TASEKO L.
1954 - 3,500
1958 - 7,538
RIVER
CHILKO LAKE
TASEKO LAKES
N. THOMPSON
ADAMS LAKE
SHUSWAP LAKE
GATES CREEK
1954 - 47
1958 - 81
RIVER
THOMPSON
ADAMS RIVER
1954 - 2,048,281
1958 - 3,151,843
BIRKENHEAD R
1954 - 41,201
1958 - 32,882
PITT R.
1954 - 17,624
1958 - 10,386
HARRISON LAKE & RIVER
1954 - 29,079
1958 - 25,000
PITT L
CULTUS LAKE
1954 - 23,756
1958 - 14,011
WEAVER CR.
1954 - 28,773
1958 - 34,207

RACIAL ESCAPEMENT FIGURES — 1958 CYCLE

FRASER RIVER SOCKEYE

I.P.S.F.C.

vented by erection of an electric fence, but many thousands of the straggling Sockeyes were unable even to approach the Adams. They perished along the way or formed a part of the surplus that was "dumped" after commercial fishing for Sockeye ended.

By comparison with the 1,300,000 spawners in Adams River last year, there were 1,500,000 in the previous cycle year (1954) and 800,000 in 1950.

What "surplus" there was resulted from the decision of the packers to cease buying fish after the cut-off date established by the Sockeye Commission, on the ground that they had already packed sufficient quantities of top grade Sockeye and did not wish to jeopardize their reputation by including inferior tail-enders, especially if they had to continue paying the full price of 28c a pound for them. The organized fishermen, for their part, maintained that thousands of fish the packers had refused to buy were actually of good quality and they declined to accept less than the 28c price for them.

It was this controversial point that led to considerable heated argument and resulted in large numbers of Sockeye not being caught, or dumped when they were caught in nets intended for other salmon. Many of the uncaught Sockeyes dropped by the wayside. Late in October and early November they were to be seen milling around aimlessly at the Thompson rapids and in Spuzzum Creek and elsewhere along the lower reaches of the river. It was just one of the many unprecedented conditions of a season that saw spawners heading up the Fraser later than ever before in history.

- Looking back from a safe post-season vantage point, there probably should have been more fishing and the situation did not provide ideal conditions for maximum escapement, but it was not as bad as some authorities had feared. The International Commission felt obliged to play it safe and take no chances of not having sufficient escapement for spawning; but it had to take a calculated risk, on the other hand, that there would not be an excessive escapement, resulting in deterioration of the spawners and damage to the spawning environment. Fortunately, this did not

Fraser River Sockeye Salmon Catch by Cycles

British Columbia	1939-	568,943	1940-	1,033,000	1941-	2,116,723	1942-	5,047,599	British Columbia
Washington		555,233		654,091		1,558,554		2,935,192	Washington
TOTAL		1,124,176		1,687,091		3,675,277		7,982,791	TOTAL
British Columbia	1943-	349,011	1944-	1,003,826	1945-	969,444	1946-	4,240,198	British Columbia
Washington		242,077		435,443		706,464		3,551,306	Washington
TOTAL		591,088		1,439,269		1,675,908		7,791,504	TOTAL
British Columbia	1947-	355,035	1948-	752,691	1949-	1,020,799	1950-	894,469	British Columbia
Washington		88,220		1,089,091		1,056,792		1,220,893	Washington
TOTAL		443,255		1,841,782		2,077,591		2,115,362	TOTAL
British Columbia	1951-	1,288,162	1952-	1,154,383	1953-	1,992,343	1954-	4,722,463	British Columbia
Washington		1,136,795		1,113,475		2,032,437		4,806,258	Washington
TOTAL		2,424,957		2,267,858		4,024,780		9,528,721	TOTAL
British Columbia	1955-	1,108,081	1956-	894,836	1957-	1,360,760	*1958-	5,221,000	British Columbia
Washington		1,006,610		906,872		1,689,265		5,247,000	Washington
TOTAL		2,114,691		1,801,708		3,050,025		10,468,000	TOTAL

* Figures for 1958 are preliminary. Figures in this table, taken from reports of the International Pacific Salmon Fisheries Commission, represent the actual numbers of Sockeye known to have been caught in waters covered by the Fraser River Sockeye Salmon treaty. No reliable catch statistics for years prior to 1939

happen, but many of the fish that could have been caught did not enter the spawning area anyway. Perhaps it was nature's way of taking care of a difficult problem.

Johnstone Strait Drama

● The high drama of the Sockeye run occurred in Johnstone Strait through which some 55% of the run passed, compared with an almost negligible 4% in the previous cycle year. In Johnstone Strait, seiners accounted for an estimated 80% of the 4,700,000 Sockeyes caught during the four-week period when the run was at its heaviest.

Some of the individual catches were fantastic. One veteran fisherman took 14,500 Sockeyes in a single haul, and his total for the period was some 70,000 fish, valued at about $110,000. Several other boats took 60,000 or more during a comparatively brief spell of frenzied fishing.

What is believed to have been the greatest armada of Canadian fishing vessels on record took part in the campaign during the first two or three weeks of September—an estimated 1800 boats altogether, although some authorities would consider that conservative. Everyone tried to get into the act—part-time fishermen whose normal occupation was farming, mining, logging or working in stores and offices; but most of them of course, were commercial fishermen who knew a good thing when they saw it.

● This was one of the "off" years for Pinks, and the Chum run was also a modest one, although higher than that of the past three years. Restrictions were placed on Chum fishing in November because of a serious delay in spawning.

The year 1959 cannot expect anything like a repetition of the past season's Sockeye run, which will consist mainly of the lesser Adams River and lesser Chilko Lake runs, but may exceed those of the last cycle year. This season will be a major one for Pinks and with the high ocean survival indicated by the 1958 runs, the 1959 Pinks may set a new record.

The 1959 season is expected to see a big catch from the dominant Chilko Lake run, with a big return from the Quesnel and Stuart the following year. Before the slide of 1913, the Quesnel was the major producer on the Fraser system.

BRITISH COLUMBIA CANNED SALMON PACK

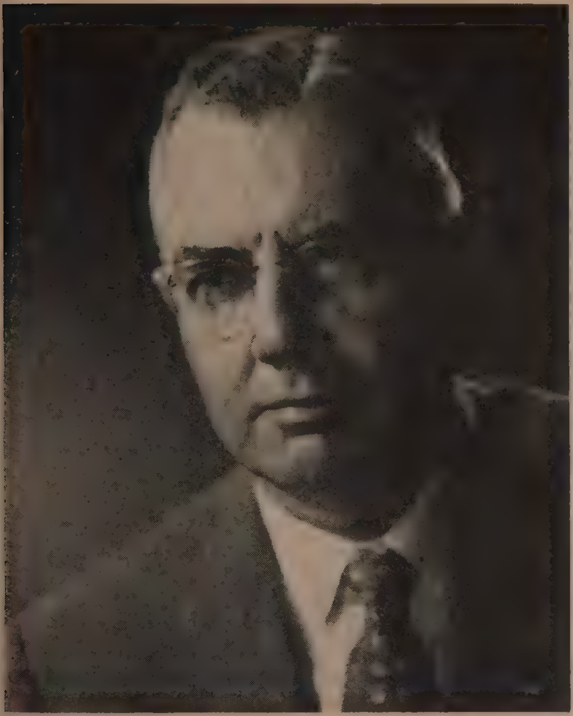
(CASES)

YEAR	Sockeyes Fraser River	Sockeyes Other Districts	Total Sockeyes	Springs	Cohoes & Bluebacks	Steelheads	Pinks	Chums	TOTAL Cases	YEAR
1903	204,809	163,908	368,717	25,657	51,918	...	27,382	...	473,674	1903
1904	72,688	250,536	323,226	38,675	66,351	...	...	37,642	465,894	1904
1905	837,489	243,184	1,080,673	28,359	44,458	...	13,970	...	1,167,460	1905
1906	183,007	276,672	459,679	32,344	69,132	...	68,035	...	629,460	1906
1907	59,815	254,259	314,074	26,098	87,900	683	118,704	...	547,459	1907
1908	63,126	291,897	355,023	28,164	81,917	1,137	76,448	...	542,689	1908
1909	542,248	298,193	840,441	19,017	61,918	...	46,544	...	967,920	1909
1910	133,045	432,870	565,915	28,789	74,382	140	34,613	58,362	762,201	1910
1911	58,487	325,022	383,509	48,456	119,702	100	305,247	91,951	948,965	1911
1912	108,784	335,778	444,762	80,437	165,102	207	247,743	58,325	996,576	1912
1913	684,596	287,582	972,178	41,049	69,822	...	192,887	77,965	1,353,901	1913
1914	185,483	351,213	536,696	49,328	120,201	...	220,340	184,474	1,111,039	1914
1915	89,040	387,002	476,042	58,104	146,956	2,927	367,352	82,000	1,133,381	1915
1916	27,394	187,395	214,789	66,726	183,623	9,982	280,644	240,201	995,065	1916
1917	123,614	116,234	339,848	76,276	157,589	11,740	496,749	475,273	1,497,475	1917
1918	16,849	259,610	276,459	107,354	191,068	15,916	527,745	497,615	1,616,157	1918
1919	29,628	339,817	369,445	100,551	199,993	4,493	346,639	372,035	1,393,156	1919
1920	44,598	306,807	351,405	118,301	120,033	2,395	520,856	84,626	1,187,616	1920
1921	35,900	128,014	163,914	49,752	124,348	1,220	192,906	71,408	603,548	1921
1922	48,744	250,870	299,614	39,596	109,276	1,657	581,979	258,204	1,290,326	1922
1923	29,423	305,224	334,647	27,142	119,141	1,760	440,932	418,055	1,341,677	1923
1924	36,200	333,403	369,603	27,456	119,989	1,811	657,538	568,916	1,745,313	1924
1925	31,523	361,120	392,643	73,499	199,180	1,996	445,400	607,904	1,720,622	1925
1926	83,589	253,406	336,995	69,189	181,894	2,165	772,993	701,962	2,065,198	1926
1927	57,085	250,947	308,032	58,977	181,968	1,746	247,617	562,109	1,360,449	1927
1928	26,530	177,011	203,541	18,856	156,757	865	792,362	863,256	2,035,637	1928
1929	60,407	220,899	281,306	19,377	196,444	672	477,969	424,982	1,400,750	1929
1930	107,896	369,782	477,678	38,804	190,594	1,656	1,111,937	401,114	2,221,783	1930
1931	54,688	236,776	291,464	27,147	102,175	1,326	206,995	55,997	685,104	1931
1932	83,447	200,908	284,355	76,060	188,971	1,168	223,716	306,761	1,081,031	1932
1933	53,481	204,626	258,107	20,266	159,052	1,459	532,558	293,630	1,265,072	1933
1934	145,579	232,303	377,882	29,784	225,430	1,282	435,364	513,184	1,582,926	1934
1935	76,415	274,029	350,444	21,920	231,492	596	514,966	409,604	1,529,022	1935
1936	165,651	249,373	415,024	29,854	246,061	1,068	591,532	597,487	1,881,026	1936
1937	103,137	222,637	325,774	16,171	133,208	844	585,576	447,602	1,509,175	1937
1938	186,794	260,659	447,453	15,531	301,123	1,035	400,876	541,812	1,707,830	1938
1939	73,216	196,672	269,888	16,103	245,096	797	620,602	386,584	1,539,070	1939
1940	86,215	280,188	366,403	17,741	224,524	1,205	213,911	643,443	1,467,227	1940
1941	149,715	305,582	455,297	50,476	391,407	3,454	427,766	920,470	2,248,870	1941
1942	418,491	248,080	666,571	24,745	211,139	4,649	270,622	633,834	1,811,560	1942
1943	72,507	92,382	164,889	10,658	186,042	3,095	530,188	363,348	1,258,221	1943
1944	107,431	140,283	247,714	19,362	183,546	3,926	389,692	255,316	1,097,557	1944
1945	122,384	205,617	329,001	12,800	218,887	2,922	825,512	350,188	1,739,311	1945
1946	381,580	161,447	543,027	8,100	100,154	4,115	116,607	576,133	1,348,138	1946
1947*	91,238	195,259	286,497	10,017	146,293	3,268	600,787	486,615	1,533,478	1947
1948	83,986	176,656	260,642	16,438	207,116	5,665	321,721	496,553	1,308,137	1948
1949	116,171	143,649	259,821	21,163	215,376	2,374	709,992	227,737	1,436,464	1949
1950	239,333	168,708	408,041	9,133	116,642	3,243	446,516	498,984	1,482,560	1950
1951	260,258	168,041	428,299	13,698	312,845	3,656	736,093	461,806	1,856,397	1951
1952	213,408	235,766	449,174	9,064	64,095	3,752	675,836	91,514	1,293,435	1952
1953	176,097	334,050	510,147	13,048	110,164	3,031	794,764	394,113	1,825,267	195
1954	486,805	193,913	680,718	14,080	128,080	3,734	335,550	580,574	1,742,736	195
1955	95,377	149,444	244,821	17,853	185,723	1,590	831,253	124,860	1,406,100	195
1956	84,296	320,096	320,096	11,671	217,915	1,254	363,633	203,710	1,118,279	195
1957	101,716	126,736	228,452	10,481	217,915	1,125	751,608	239,539	1,449,120	195
1958	420,000	659,155	1,079,155	10,475	132,403	1,213	455,518	229,292	1,908,056	195
10 Year Average	219,346	249 956	460,873	12,057	170,105	2,497	610,077	305,213	1,558,556	10 Year Ave

NOTE: Figures for 1925 to 1957 have been corrected from official statistics. Figures for "Fraser River Sockeyes" include all Sockeyes canned in District No. 1, regardless where caught

Figures for 1958 subject to further correction.

*Figures for 1947 include 28,321 cases packed from frozen fish of 194 catch of various species.



K. C. HARDWICKE, Seattle, Wash.

JOS. W. WHITMORE, Vancouver, B. C.

- **MR. WHITMORE,** director, Pacific Area, Canadian Department of Fisheries, ranks with the world's foremost regulatory fishery administrators. Since 1947 he has served as chief supervisor and director of Canada's western fisheries, now at their peak of productivity. He is a member of the International Pacific Salmon Fisheries Commission. He was for 17 years director of western fisheries in Ottawa.

- **MR. HARDWICKE** is vice president of Libby, McNeill & Libby in charge of the company's salmon division, with headquarters in Seattle. He is a trustee of the Association of Pacific Fisheries, and a director of Alaska Salmon Industry, Inc. Mr. Hardwicke was one of the group which in 1958 negotiated with Japanese operators the voluntary reduction of fishing in the area of intermingling.

- **MR. ANDERSON** is director of the Alaskan Fish and Game Commission, a post which he has held since that agency was organized in 1949. He was an early member of the faculty of the University of Washington College of Fisheries, was an assistant director of the Washington State Department of Fisheries, and operated fish packing enterprises in Alaska and on Puget Sound. He is chairman of the advisory committee to the American Section of the North Pacific Commission.

CLARENCE W. ANDERSON, Juneau, Alaska

Fishermen's Packing Corporatio

CANNERS OF PUGET SOUND SALMON

SOCKEYE
Snow Cap
Snowland

COHOE
Olympic
Green Breaker
Ocean Spray

PINK
Waterfall

CHUM
Golden West
Golden Glow

•

FISHERMEN'S PACKING CORP.

SNOW CAP
BRAND
PUGET SOUND
SOCKEYE SALMON
GREEN BREAKER
SELECTED OCEAN CAUGHT
COHOE SALMON
SALT ADDED
CONTENTS
Waterf
BRAND
PINK
SALMO
WEIGHT OF CONTENTS 1

OFFICE AND CANN
ANACORTES, WASHING

1958—Richest, but not Largest

• Richest—but not the largest—salmon pack in Puget Sound history was canned in 1958.

The pack was worth $23 million, actually $10 million more than the great pack of 1913 — but $1 would buy a lot more salmon then. Obviously, the record value results from the effect of inflation on price—an effect which continues.

Thus the 430,000 cases of Sockeye canned on Puget Sound in 1958 were valued at $19,799,000; while in 1954, when the Puget Sound Sockeye pack was 504,000 cases, the value of the larger volume was $16,364,000.

Actual aggregate volume of the 1958 pack — 615,000 cases — in fact was below the 10-year average, due directly to the fact that the pack of Chums was light—and of course there were no Pinks.

Proportion of Sockeye in the total pack was as large as in any year—perhaps larger; and this went along with inflation in running the value to new peaks.

Season Proves Disappointing

• The year 1958, for all its richness in value, was a bitter disappointment to the industry.

This was due to the fact that, of

Fraser River-Puget Sound Sockeye Pack, by Cycles

British Columbia	1895-	395,984	1896-	356,984	1897-	860,459	1898-	256,101	British Columbia
Washington		65,143		72,979		312,048		252,000	Washington
TOTAL		461,127		429,963		1,172,507		508,101	TOTAL
British Columbia	1899-	480,485	1900-	229,800	1901-	928,669	1902-	293,477	British Columbia
Washington		499,646		228,704		1,105,096		339,556	Washington
TOTAL		980,131		458,504		2,033,765		633,033	TOTAL
British Columbia	1903-	204,809	1904-	72,688	1905-	837,489	1906-	183,007	British Columbia
Washington		167,211		123,419		837,122		182,241	Washington
TOTAL		372,020		196,107		1,674,611		365,248	TOTAL
British Columbia	1907-	59,815	1908-	74,574	1909-	585,435	1910-	150,432	British Columbia
Washington		96,974		170,951		1,097,904		248,014	Washington
TOTAL		156,789		245,525		1,683,339		398,446	TOTAL
British Columbia	1911-	58,487	1912-	123,879	1913-	719,796	1914-	198,183	British Columbia
Washington		127,761		184,680		1,673,099		335,230	Washington
TOTAL		186,248		308,559		2,392,895		533,413	TOTAL
British Columbia	1915-	91,130	1916-	32,146	1917-	148,164	1918-	19,697	British Columbia
Washington		64,584		84,637		411,538		50,723	Washington
TOTAL		155,714		116,783		559,702		70,420	TOTAL
British Columbia	1919-	38,854	1920-	48,399	1921-	39,631	1922-	51,832	British Columbia
Washington		64,346		62,654		102,967		48,566	Washington
TOTAL		103,200		111,053		142,598		100,398	TOTAL
British Columbia	1923-	31,655	1924-	39,743	1925-	35,385	1926-	85,689	British Columbia
Washington		47,402		69,369		112,023		44,673	Washington
TOTAL		79,057		109,112		147,408		130,362	TOTAL
British Columbia	1927-	61,393	1928-	29,299	1929-	61,569	1930-	103,692	British Columbia
Washington		97,594		61,044		111,898		352,194	Washington
TOTAL		158,987		90,343		173,467		455,886	TOTAL
British Columbia	1931-	40,947	1932-	65,769	1933-	52,465	1934-	139,238	British Columbia
Washington		87,211		81,188		126,604		352,579	Washington
TOTAL		128,158		146,957		179,069		491,817	TOTAL
British Columbia	1935-	62,822	1936-	184,854	1937-	100,272	1938-	186,794	British Columbia
Washington		54,677		59,505		60,259		134,641	Washington
TOTAL		117,499		244,359		160,531		321,435	TOTAL
British Columbia	1939-	54,296	1940-	99,009	1941-	171,240	1942-	446,371	British Columbia
Washington		43,511		59,354		110,605		263,458	Washington
TOTAL		97,807		158,363		281,845		709,829	TOTAL
British Columbia	1943-	31,973	1944-	38,515	1945-	79,781	1946-	331,292	British Columbia
Washington		19,179		87,509		53,054		280,018	Washington
TOTAL		51,152		126,024		132,835		611,310	TOTAL
British Columbia	1947-	27,857	1948-	61,759	1949-	80,629	1950-	81,510	British Columbia
Washington		7,516		60,442		80,547		116,458	Washington
TOTAL		35,373		122,201		161,176		197,968	TOTAL
British Columbia	1951-	134,400	1952-	115,814	1953-	176,007	1954-	486,805	British Columbia
Washington		118,151		114,638		178,413		501,496	Washington
TOTAL		252,551		230,452		354,420		988,301	TOTAL
British Columbia	1955-	95,377	1956-	84,296	1957-	99,395	*1958-	420,000	British Columbia
Washington		85,136		84,052		119,988		440,000	Washington
TOTAL		180,513		168,348		219,383		860,000	TOTAL

*Figures for 1958 are approximate. Statistics represent 48-lb. cases of Sockeyes caught in the Fraser River district of British Columbia and adjacent waters of the State of Washington, whether canned in those districts or elsewhere -- and not including other Sockeye canned in those districts. This accounts i large part for the discrepancy between these statistics and those appea elsewhere in this issue.

PUGET SOUND CANNED SALMON PACK - 1958

COMPANY	CANNERY LOCATION	SOCKEYE			PINK			CHUM			COHO or SILVER			KING or CHINOOK			GRAND TOTAL (Full Cases)
		1-lb. Talls & 4-lb. Flats etc.	1/2 & 1/4 -lb. Flats (48 lbs.) Net	TOTAL	1 lb. Talls & 4-lb. Flats etc.	1/2-lb Flats (48-lbs.) Net	TOTAL	1-lb. Talls & 4-lb. Flats etc.	1/2 & 1/4 -lb. Flats (48-lbs.) Net	TOTAL	1-lb. Talls & 4-lb. Flats etc.	1/2 & 1/4 -lb. Flats (48-lbs.) Net	TOTAL	1-lb. Talls & 4-lb. Flats etc.	1/2 & 1/4 -lb. Flats (48-lbs.) Net	TOTAL	
Alaska Packers Association	Blaine	874	53,900	54,774	--	19	19	3,381	--	3,381	--	1,255	1,255	--	---	--	59,429
American Packing Company	Anacortes	458	20,647	21,105	--	62	62	12,377	2,099	14,476	6	530	536	--	85	85	36,264
Burk Canning Company	Bellingham	4,791	21,224	26,015	--	16	16	4	22	26	41	808	849	--	8	8	26,914
Columbia River Packers Assn.	Bellingham	418	33,488	33,906	--	73	73	40	-	40	--	1,345	1,345	--	145	145	35,509
Crown Seafood Sales Co.	Seattle	(a) 363	---	363	588	---	588	5,006	--	5 006	1,091	--	1,091	193	---	193	(a) 7,241
Fishermen's Packing Corp.	Anacortes	1,255	68,101	69,356	--	23	23	---	158	158	--	2,347	2,347	--	237	237	72,121
Food Specialty Company	Seattle	657	---	657	--	---	---	2,299	--	2,299	145	--	145	1,106	---	1,106	4,207
Friday Harbor Canning Co.	Friday Harbor	--	922	922	--	3	3	---	--	---	--	56	56	--	6	6	987
Iversen Canning Co.	Point Roberts	393	---	393	--	---	---	---	--	---	805	--	805	--	---	--	1,198
John C. Jackson, Inc.	Friday Harbor	(b) 1,764	6,479	8,243	11	5	16	342	480	822	200	116	316	--	---	--	(b) 9,397
Nakat Packing Corporation	Anacortes	11,003	21,753	32,756	--	6	6	5	57	62	272	457	729	45	110	155	33,708
Nelbro Packing Company	Point Roberts	--	---	---	--	---	---	9,412	1,592	11,004	--	--	--	--	---	--	11,004
New England Fish Co.	Friday Harbor, etc.	(h) 4,510	29,118	33,628	--	16	16	8,902	15	8,917	796	610	1,406	60	29	89	(h) 44,056
Pacific American Fisheries	Bellingham	(c) 7,741	29,036	36,777	--	7	7	7,451	2,097	9,548	186	694	880	1	31	32	(c) 47,244
Pelican Packing Company	Bellingham	(d) 500	3,093	3,593	--	---	---	---	4	4	--	47	47	--	1	1	(d) 3,645
Rupert Fish Company	Seattle	(e) 742	2,600	3,342	--	5	5	17,552	962	18,514	274	5,846	6,120	--	---	--	(e) 27,981
San Juan Fishing & Packing Co.	Seattle	(f) --	552	552	--	---	---	---	38	38	415	631	1,046	--	4	4	(f) 1,640
Scheerer Canning Co.	Everett	(i) 15	---	15	--	---	---	50	--	50	286	--	286	--	---	--	(i) 351
Sea-Pac Company	Bellingham	--	900	900	--	---	---	800	650	1,450	150	--	150	--	---	--	2,500
Sebastian-Stuart Fish Co.	Anacortes	(j) --	14,546	14 546	--	14	14	1,255	487	1,742	978	535	1,513	--	51	51	(j) 17,866
Ward's Cove Packing Co.	Anacortes	--	1,136	1,136	--	---	---	---	--	---	--	--	--	--	---	--	1,136
Washington Fish & Oyster Co	Seattle	(g) 3,487	27,147	30,634	634	---	634	20,329	2,549	22,878	3,664	6,394	10,058	--	---	--	(g) 64,204
Whitney & Company	Anacortes	1,526	22,451	23,977	--	73	73	12,580	1,099	13,679	8	1,542	1,550	--	66	66	39,345
Whiz Fish Products Co.	La Conner	8,756	24,077	32,833	10	---	10	29,037	1,042	30,079	3,002	1,196	4,198	--	---	--	67,120
TOTAL		49,253	381,170	430,423	1,243	322	1,565	130,822	13,351	144,173	12,319	24,409	36,728	1,405	773	2,178	615,067

NOTE:- Puget Sound table includes fish brought from other districts and canned on Puget Sound. It does NOT include fish caught on Puget Sound and canned on the Columbia River. (a) All packed in 4-lb. cans, 12 per case, except 3 cases Pinks in 1-lb. talls, 3,423 cases Chum 1-lb. talls and 39 cases King talls. (b) 1-lb. cans are all 1-lb. flats. (c) Includes 4-lb. cans, 12 per case, as follows: Sockeye, 3,966; Chum, 7,451; Coho, 163; and 1/4-lb. cans, basis of 48-lb. cases. King, 1; Sockeye, 1,618; Coho, 114 (d) Includes 38 full cases Sockeye quarters and 47 full cases Coho quarters. (e) Includes 1,171 full cases of Coho quarters. (f) All 4-lb. cans, 12 per case. (g) Contains 1,289 cases Sockeye quarters 587 cases 4-lb. Pinks, 3,728 cases Coho quarters, 3,057 cases 4-lb. Coho, all on the basis of 48-lb. cases. (h) Includes 185 full cases Sockeye quarters, and 4-lb. cans, 12 per case as follows: Sockeye 635; Coho, 143; Chum, 2,197. (i) All 4-lb. in cases of 12. (j) Includes 4-lb. Cohoes, 978; Chums 1,255; Coho quarters, 70; Sockeye quarters, 2,626.

the Sockeye run to the Fraser, perhaps half passed down Johnstone Strait, outside of international convention waters, the catch from which is shared equally between Canada and the United States.

Thus in 1958, out of a total run of 19 million Sockeye, the American fishermen got only a little over 5 million fish, while the Canadian catch was fully twice as large.

The Americans had been counting, and soundly, upon sharing equally in a catch which seemed certain to be great—and was; but much of it was made in waters where the Americans could not fish, and in whose product they could not share.

It was a grave disappointment—like getting only one-third of a rich uncle's millions, when you had been counting on half.

● The season was a harrowing one for the American fishermen, and particularly so for the gillnetters, who never came out as well as their competitors the purse seiners; and this for the second year running.

The Sockeye run to the Fraser in 1958 was late in making its appearance—late as well as irregular in routing. This aberrant character was generally credited to the effect of the above-normal ocean temperatures, which are presumed to have held the Sockeye further north, delaying their arrival in coastal waters, and bringing them to the coast near the north end of Vancouver Island, with the result that a larger portion of the run funnelled down Johnstone Strait, through Canadian waters before reaching the Fraser.

When the fish finally *did* appear in the entrance to the Strait of Juan de Fuca they showed further hesitance in entering and appeared to be in a random schooling phase for a period, during which they were particularly vulnerable to Canadian gear fishing in the section between the Bonilla-Tatoosh boundary line and Por San Juan.

Even after the Sockeye had passec into the Strait of Juan de Fuca anc were definitely committed to migra tion they proved available to Amer ican gear to a lesser degree than nor mal. The fish seemed to be swim ming deep, so it was not until som of the fishermen had added increase depth to their nets that they began t take the expected percentage of th runs.

"Division" Narrowly Attained

● Faithful to the peculiarity of th Adams River Sockeye race, the fis of 1958 hovered for an extended p riod off the mouth of the Fraser Rive and it was during this period that th

American fleet was enabled to gain equality in the catch as result of a couple of fortunate "blow-backs," as Sockeye which had passed into closed Canadian waters off the mouth of the river drifted back over the national boundary as result of wind and current, and thus again became available to the American fleet.

In the last analysis, then, the Americans and Canadians shared almost equally in the Sockeye catch made in convention waters, although the Canadian fishermen secured about as many Fraser River Sockeye in non-treaty waters of Johnston Strait as did either they or the Americans in the convention area, where the catch is subject to equal division under the treaty.

● Escapement to the Fraser in the fall of 1958 was more than satisfactory, due to the fact that a large, but unknown, number of fish escaped from the Johnstone Strait fishery. Thus the spawning run which finally moved up the Fraser was deemed greater than the capacity of the spawning grounds to which it was naturally returning.

This condition was enhanced in large degree by the refusal of the Canadian fishermen to fish for these late

PUGET SOUND CANNED SALMON PACK

Puget Sound salmon canning commenced in 1877 with a pack of 5,500 cases, but no segregation by species is available prior to 1889. From the beginning production increased, with much fluctuation, to 22,000 cases in 1887; the average for intervening years being 7,867 cases. Values shown are based on opening prices. "Average" figures at bottom of table are for last ten years.

YEAR	# of Plants Oper.	Sockeye		Pink		Chum		Coho		Chinook		TOTAL		YEAR
		Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1888	4	...	...	...	...	...	...	...	...	...	...	21,975	$126,356	1888
1889	2	...	...	2,809	$7,584	1,145	$3,435	7,480	$37,400	240	$1,200	11,674	49,619	1889
1890	1	...	...	...	...	4,000	12,000	3,000	15,000	1,000	5,000	8,000	32,000	1890
1891	2	5,538	$24,921	5,647	15,246	3,093	10,825	5,869	19,368	382	2,101	20,529	72,461	1891
1892	2	2,954	11,816	...	...	16,180	56,630	7,206	24,500	86	473	26,426	93,419	1892
1893	3	47,852	103,371	17,530	47,331	11,380	31,295	11,812	59,060	1,200	6,480	89,331	247,537	1893
1894	3	41,781	188,014	9,049	24,432	22,152	60,918	22,418	89,672	...	...	95,400	363,036	1894
1895	7	65,143	273,108	23,633	62,556	38,785	94,741	50,865	154,218	1,542	7,325	179,968	591,948	1895
1896	11	72,979	350,299	...	...	26,550	73,013	82,640	264,448	13,495	67,475	195,664	755,235	1896
1897	12	312,048	1,248,192	57,268	171,804	23,310	64,103	91,900	282,133	9,500	39,045	494,026	1,805,277	1897
1898	18	252,000	1,058,400	...	...	38,400	105,600	98,600	335,240	11,200	50,624	400,200	1,549,864	1898
1899	19	499,646	2,368,334	252,733	734,241	31,481	86,427	111,387	418,176	24,364	103,180	919,611	3,170,358	1899
1900	19	228,704	1,149,000	...	...	89,100	245,025	128,200	512,800	22,350	134,100	469,450	1,940,925	1900
1901	..	1,105,096	...	275,494	...	...	...	...	...	...	...	1,380,590	...	1901
1902	21	339,556	2,047,655	...	...	93,492	467,460	85,817	429,085	30,049	150,245	548,914	3,094,445	1902
1903	22	167,211	1,003,260	181,236	407,984	12,001	30,002	103,450	413,800	14,500	72,500	478,398	1,929,546	1903
1904	13	123,419	653,871	...	...	49,656	124,254	118,127	447,851	14,441	69,352	305,643	1,295,328	1904
1905	24	847,122	4,952,718	70,992	212,976	41,057	102,643	79,335	337,174	1,804	9,922	1,040,310	5,615,433	1905
1906	16	182,241	1,251,236	...	...	149,218	708,781	94,497	472,485	8,139	48,834	430,602	2,481,336	1906
1907	14	93,122	698,416	433,423	1,300,269	50,249	150,847	119,472	476,288	1,814	16,326	698,080	2,642,146	1907
1908	22	170,951	1,196,657	6,075	18,225	47,607	142,821	128,922	644,922	95,210	664,470	448,765	2,669,095	1908
1909	11	1,097,904	6,183,300	370,993	902,342	53,688	128,916	143,133	630,446	13,019	72,604	1,632,949	7,917,608	1909
1910	24	248,014	1,673,095	108	388	146,942	514,297	162,755	895,153	10,064	60,324	567,883	3,143,256	1910
1911	15	127,761	1,168,145	1,046,992	4,302,344	104,321	392,122	256,124	1,591,185	21,823	172,582	1,557,021	7,727,524	1911
1912	20	184,680	1,660,173	700	2,185	60,760	154,193	149,727	761,200	20,252	101,706	416,125	2,679,457	1912
1913	22	1,673,099	10,871,178	791,886	2,092,401	56,225	124,970	61,019	235,372	1,234	5,247	2,583,463	13,329,168	1913
1914	31	335,230	3,208,969	892	4,212	278,801	955,920	151,893	759,689	26,044	167,322	792,860	5,095,839	1914
1915	41	64,584	676,769	583,649	1,795,285	411,724	155,744	180,783	902,335	28,466	145,555	1,269,206	4,675,418	1915
1916	32	84,637	699,161	1,887	8,264	427,878	1,492,161	155,832	957,650	37,030	280,708	707,278	3,437,944	1916
1917	45	411,538	5,366,218	1,124,884	7,823,960	216,285	1,362,634	114,276	1,065,983	57,543	540,904	1,921,554	16,159,699	1917
1918	32	50,723	781,992	6,605	53,336	267,538	1,715,159	235,860	2,532,553	63,472	754,637	624,198	5,837,677	1918
1919	35	64,346	1,186,413	421,215	3,854,113	525,541	1,687,787	210,883	2,618,504	73,618	910,968	1,295,626	12,257,785	1919
1920	11	62,654	1,725,252	4,669	28,860	48,849	3,225,368	24,502	221,688	25,846	370,215	166,520	2,571,385	1920
1921	23	102,967	1,991,368	404,713	1,870,385	30,831	123,608	89,412	798,541	25,567	199,609	653,490	4,983,511	1921
1922	16	48,566	945,178	2,225	13,273	65,552	283,395	111,771	744,656	20,615	222,641	248,729	2,209,143	1922
1923	18	47,402	860,000	475,849	2,429,800	97,081	471,790	122,000	785,000	15,806	150,407	758,138	4,696,997	1923
1924	12	69,369	1,182,358	5,945	39,192	134,360	651,014	87,879	688,950	20,096	216,043	317,649	2,777,557	1924
1925	23	112,023	2,098,683	553,904	3,179,302	43,345	207,546	173,215	1,902,289	29,183	432,349	911,670	7,820,169	1925
1926	14	44,673	532,408	2,107	15,095	112,204	573,411	123,469	1,163,286	27,972	365,826	310,425	2,650,026	1926
1927	21	97,594	2,115,410	578,923	3,669,941	38,129	225,654	135,802	1,358,020	41,796	588,314	892,244	7,957,339	1927
1928	14	60,081	1,207,981	5,597	41,091	146,356	833,114	89,923	777,472	23,419	294,816	325,376	3,154,024	1928
1929	22	111,898	2,203,496	727,621	4,639,076	156,683	911,584	101,635	1,044,372	34,007	439,778	1,131,844	9,238,306	1929
1930	12	352,194	4,890,921	3,712	18,486	64,234	237,123	122,691	1,240,876	29,775	407,912	572,606	6,795,318	1930
1931	18	83,728	1,316,348	705,580	2,486,377	55,189	177,000	76,025	569,699	28,359	293,022	948,881	4,842,446	1931
1932	10	78,319	897,006	1,677	5,779	146,151	381,116	60,740	330,385	24,024	168,625	310,911	1,782,912	1932
1933	19	125,738	1,340,000	543,340	2,643,528	37,039	171,742	44,568	292,684	21,091	221,776	771,776	4,669,810	1933
1934	21	340,787	3,632,587	3,296	17,331	72,841	251,991	69,080	517,901	14,089	74,024	500,093	4,493,834	1934
1935	14	51,714	720,076	369,620	1,652,161	15,636	68,402	70,514	534,956	9,243	91,396	516,727	3,066,991	1935
1936	9	60,063	813,510	1,152	7,598	86,070	315,465	30,568	292,528	4,708	43,427	182,561	1,472,528	1936
1937	13	56,983	925,160	327,973	1,676,692	18,759	91,696	31,747	323,976	6,412	76,750	441,874	3,094,274	1937
1938	13	139,152	1,824,396	455	2,641	7,697	32,193	10,268	100,753	2,371	36,800	159,943	1,996,783	1938
1939	14	43,561	669,202	282,271	1,574,317	15,080	76,786	54,905	485,760	2,446	33,508	398,263	2,839,573	1939
1940	9	62,748	1,122,684	2,947	17,432	23,405	114,798	30,654	231,878	1,674	15,734	121,428	1,502,526	1940
1941	9	110,758	2,140,457	153,924	1,203,657	25,423	187,224	46,213	553,230	4,769	62,354	341,087	4,146,922	1941
1942	10	258,488	5,255,888	851	7,965	2,223	17,748	6,862	97,693	1,204	26,389	269,628	5,405,683	1942
1943	10	19,149	424,339	62,129	637,730	243	2,432	26,292	390,847	2,864	12,456	110,677	1,467,804	1943
1944	3	37,214	830,719	299	3,313	...	...	373	5,883	1,064	21,240	38,950	861,155	1944
1945	6	53,532	1,176,467	305,245	2,724,176	1,184	12,467	18,802	258,076	3,639	63,511	382,402	4,234,697	1945
1946	20	271,311	10,108,350	91	2,184	47,099	989,079	7,118	163,714	6,841	268,120	332,460	11,531,447	1946
1947	25	7,516	315,956	639,426	13,423,416	139,131	2,532,194	79,450	2,254,404	29,143	875,098	894,666	19,401,068	1947
1948	22	91,268	5,005,792	4,645	128,328	245,133	5,558,820	70,659	2,049,606	27,043	903,578	438,748	13,646,124	1948
1949	23	94,627	2,959,425	557,740	9,305,100	162,532	2,381,000	55,910	1,273,000	8,594	224,000	879,403	16,142,525	1949
1950	20	128,385	4,984,208	2,277	61,855	512,997	10,752,172	116,655	3,454,279	8,215	191,712	768,529	19,444,226	1950
1951	25	156,461	5,815,837	441,605	9,419,295	233,468	3,922,457	88,511	2,200,801	11,275	281,794	931,320	21,640,184	1951
1952	20	114,707	5,153,778	817	51,026	292,318	5,147,662	172,910	4,079,424	7,869	178,654	588,621	14,610,544	1952
1953	22	164,848	6,041,592	440,860	8,239,810	144,542	1,761,160	54,901	1,012,224	3,974	106,937	809,125	17,161,723	1953
1954	21	507,719	16,364,291	1,429	32,314	272,455	4,292,256	29,252	742,533	5,054	119,568	815,909	21,550,962	1954
1955	23	81,913	3,088,120	411,280	9,108,207	88,672	1,745,505	63,526	1,886,722	10,177	253,698	655,568	16,082,252	1955
1956	15	70,285	2,865,166	320	7,382	47,068	987,721	59,481	1,836,178	3,582	[illegible]	180,736	5,796,924	1956
1957	20	189,406	7,750,894	228,930	5,426,423	88,623	1,615,502	87,339	2,486,215	6,497	186,205	600,795	17,465,239	1957
1958	19	430,423	19,799,658	1,565	32,865	144,173	2,430,393	36,728	1,136,956	2,178	65,340	615,067	23,465,212	1958
Aver.	21	193,877	7,482,297	208,682	4,168,428	198,684	3,806,146	76,521	2,010,833	6,732	170,838	684,508	17,335,979	Aver.

NOTE:- Figures for the last year in this table are from "PACIFIC FISHERMAN's" compilation. Those for previous years have been revised from official data. Fish from British Columbia are included; fish from Alaska omitted.

fish—by then well advanced toward spawning maturity—at prices at which the canners were willing to hazard packing this quality.

Disastrous overspawning was finally avoided by erection of electric barriers below the vital Adams River spawning grounds, thus diverting the late arrivals among the spawners to other less productive but not overseeded tributaries.

1959 Outlook Clouded

● Outlook for the Puget Sound fishery of 1959 is clouded.

The Sockeye run of that year is forecast to provide a catch of about 1,000,000 fish to each of the national fleets. This would provide about 85,000 full cases for each country, as the fish are expected to be small in size, on the order of 6 lbs. each.

The major portion of the 1959 Sockeye catch is expected to be made between July 20 and August 10.

● As an odd-numbered year, 1959 will bring the biennial Pink salmon run to Puget Sound.

In 1957 the Pink run was poor, producing 224,000 cases, as contrasted with the previous cycle's 411,000 and odd-year packs all above 400,000 and running up to 639,000 in each odd-year since 1945.

According to the International Pacific Salmon Fisheries Commission's scientific staff, the outlook for the 1959 Pink run is even poorer than the 1957 cycle would indicate. This is due to the fact that the same abnormally high ocean water temperatures which made the 1958 Sockeye run late and erratic presented sharply adverse conditions to the tiny migrating Pink salmon when they reached salt water in the spring of 1958. These fish, which mature in their second year, will be returning in the summer of 1959 — those of them which survived the apparently adverse conditions under which they made their entry into the sea, where they live most of their lives and make virtually all of their growth.

● One of the facts which made the Puget Sound canned salmon pack of 1958 appear to compare unfavorably with previous seasons in volume, although of course not in value, was the

NORTH AMERICAN CANNED SALMON PACK

Year	Red, Sockeye or Blueback	Pink	Chum or Keta	Medium Red Coho or Silverside	King or Chinook	Steelhead Trout	Total Cases	Yea
1898	1,594,162	109,399	51,530	282,589	398,564	26,277	2,462,521	1898
1899	2,153,388	401,892	61,932	261,071	334,974	11,994	3,225,251	1899
1900	2,046,908	232 022	155,208	208,026	338,493	20,597	3,001,254	1900
1901	3,801,730	585,017	86,230	126,535	455,395	20 000	5,074,907	1901
1902	2,702,045	549,602	313,603	227,031	379,641	8,593	4,180 515	1902
1903	2,231,555	564,507	61,232	330,319	403,836	7,251	3 598 700	1903
1904	1,950,949	299,333	168,235	168,235	444,472	9,868	3 041,092	1904
1905	3,488,322	253,559	138,642	269,806	443,794	9 822	4,603,945	1905
1906	2,122,204	416,602	450,151	397,346	424,974	6 500	3,817,777	1906
1907	1,707,813	1,114,100	272,135	397,786	354,209	6,604	3 852 647	1907
1908	2,186,325	726,656	303,837	386,745	379,171	11,863	3,994 597	1908
1909	3,671,555	882,410	218,987	373,567	262,554	17,382	5 426 455	1909
1910	2,274,780	589,043	555,908	521,966	372,901	5,576	4,320 174	1910
1911	1,869,927	2,373,595	592,790	676,141	627,714	8,618	6,104 887	1911
1912	2,544,435	1,556,128	808,630	621,817	426,338	7,198	5,956,953	1912
1913	4,643,425	2,392,166	432,812	300,033	285,472	9 539	8 063 447	1913
1914	3,121 964	1,222,013	1,200,433	579,980	509,100	11,292	6,644,782	1914
1915	2,492,865	2,825,570	1,107,707	551,821	641 979	29,650	7,639 592	1915
1916	2,432,048	2,036,077	1,500,332	715,815	646,341	24,999	7,355 612	1916
1917	3,248,843	3,929,332	1,648,313	588,749	673,980	35,677	10 124 894	1917
1918	2,987,710	2,953,245	2,175,031	838,088	697 140	41,086	9,692 300	1918
1919	1,707,846	2 426,414	2,367,481	793,175	704 195	24,392	8 023 503	1919
1920	1,892,691	2,138,959	1,175,001	361,566	705,050	16,054	6,289,321	1920
1921	2,034,310	1,038,090	359,947	362,943	419,508	11,362	4,226,160	1921
1922	2,480,811	2,241,760	908,283	510,919	353,588	26,640	6,522,001	1922
1923	2,309,142	3,371,917	1,120,591	534,225	389,802	27,757	7,753,434	1923
1924	1,902,832	3,295,739	1,835,251	542,682	406,096	31,270	7,990,543	1924
1925	1,581,792	3,111,320	1,803,371	667,817	550,071	17,248	7,731,610	1925
1926	2,550,771	4,101,422	1,762,134	607,778	485,783	86,233	9,544,126	1926
1927	1,738,054	2,241,304	1,217,338	642,522	538,574	33,377	6,411,169	1927
1928	2,214,498	3,583,433	2,165,652	602,203	354,798	17,492	8,938,076	1928
1929	2,100,787	3,775,764	1,541,213	564,826	375,497	24,821	8,382,908	1929
1930	1,710,018	4,266,301	1,085,351	758,451	427,282	18,509	8,265,912	1930
1931	2,084,385	3,890,755	671,574	388,140	418,483	13,679	7,467,016	1931
1932	2,484,459	2,341,966	1,313,537	446,706	394,830	14,386	6,995,884	1932
1933	2,579,891	3,259,341	1,021,547	402,107	343,442	19,486	7,625,814	1933
1934	3,354,863	4,261,262	1,362,905	596,951	352,752	16,183	9,944,916	1934
1935	1,232,852	4,139,114	1,303,216	596,117	279,693	15,484	7,566,476	1935
1936	2,968,184	5,181,954	1,846,675	533,285	313,795	20,350	10,864,243	1936
1937	2,494,302	4,532,487	1,233,999	369,916	385,986	18,412	9,035,372	1937
1938	3,125,176	3,623,435	1,387,245	595,380	234 520	16,283	8,982,039	1938
1939	2,280,088	3,412,392	1,054,858	472,239	254,930	26,090	7,500,597	1939
1940	1,402,999	3,124,292	1,553,389	592,395	286,485	34,443	6,994,003	1940
1941	1,763,852	5,218,427	1,770,225	831,279	422,98[illegible]	36,597	10,043,369	1941
1942	1,860,044	3,088,724	1,723,193	516,687	343,369	26,507	7,658,524	1942
1943	2,169,091	2,913,760	1,258,239	377,160	196 000	19,357	6,933,608	1943
1944	1,869,365	2,478,750	1,239,548	383,040	223,088	23,143	6,216,934	1944
1945	1,556,200	3,374,192	1,041,387	457,680	194,056	22,125	6,645,640	1945
1946	1,893,469	2,176,817	1,267,478	316,968	230,811	21,880	5 907,423	1946
1947	2,197,569	2,962,281	1,127,496	438,087	366 620	25,325	7,117,378	1947
1948	1,994,733	1,630,411	1;551,190	577,726	354,475	26,027	6,134 562	1948
1949	1,335,248	3,946,309	946,615	492,871	229,031	11,305	6,961,380	1949
1950	1,698,290	1,544,327	1,816,745	468,768	215,114	13,777	5,757 022	1950
1951	1,364,419	2,737,445	1,443,330	779,725	258,530	18,517	6,601,966	1951
1952	1,862,844	1,850,890	1,375,214	461,629	168,150	22,[illegible]63	5,741,490	1952
1953	1,672,714	2,189,770	1,359,134	317,314	170,614	22,369	5,731,915	1953
1954	2,004,548	1,486,676	1,910,330	343,203	144,013	17,113	5,905,883	1954
1955	994,186	2,505,415	591,190	394,529	194 414	15,327	4,695,061	1955
1956	1,502,650	1,492,979	961,769	406,486	177 628	9,425	4,550,937	1956
1957	1,192,018	1,695,172	1,164,082	421,468	152,547	8,730	4,634,017	1957
1958	2,030,985	2,013,131	1,139,661	277,988	145 418	7,509	5,614,692	1958
10 YR. Average	1,363,592	2,146,211	1,270,807	436,398	185,546	14,683	5 619,436	10 YR Average

NOTE:- Figures represent full cases of 48 lbs. net. "Average" is for the last ten years.

Figures for the last year shown are from PACIFIC FISHERMAN's compilation; those for previous years are officials totals.

BONNEVILLE DAM SALMON ESCAPEMENT

Year	Chinook	Steelhead	Silver	Blueback	Chum	Total	Year
1938	271,799	107,003	15,185	75,040	2,117	471,144	1938
1939	286,216	121,922	14,382	73,382	1,168	497,070	1939
1940	391,588	185,161	11,917	148,805	1,729	739,200	1940
1941	461,458	118,087	17,911	65,745	5,270	668,471	1941
1942	403,938	151,345	12,401	55,475	1,865	625,024	1942
1943	313,123	92,131	2,547	39,845	790	448,436	1943
1944	240,763	100,521	4,208	15,071	954	361,517	1944
1945	297,488	120,144	791	9,501	727	428,651	1945
1946	445,743	142,548	3,897	74,354	1,178	667,720	1946
1947	480,376	135,434	11,174	171,139	202	798,325	1947
1948	419,555	139,062	4,081	131,541	3,636	697,875	1948
1949	277,697	119,285	1,004	51,444	2,028	451,458	1949
1950	357,375	114,079	10,153	77,993	1,069	560,669	1950
1951	331,788	140,689	5,201	169,428	1,051	648,157	1951
1952	420,879	260,990	7,768	184,654	1,505	875,796	1952
1953	332,479	223,915	13,018	235,219	1,728	806,359	1953
1954	320,945	176,254	4,062	130,107	1,569	632,937	1954
1955	359,853	198,417	3,725	237,748	318	800,061	1955
1956	300,915	131,109	6,120	156,418	684	595,246	1956
1957	403,869	139,194	4,775	82,915	569	631,322	1957
1958	426,420	131,441	3,673	122,389	456	684,379	1958

elimination in that year of the practice of bringing quantities of Bristol Bay Red salmon in freezerships to Puget Sound for canning. After a decade of development, this practice had come in recent years to be unprofitable, and in 1958 was suspended. Result was a reduction of from 75,000 to 100,000 cases in the amount of Red or Sockeye salmon canned on Puget Sound.

This is not to say that no fish were brought to Puget Sound for canning. As shown in following paragraphs, there was a substantial, if not fully up to normal movement of fresh Chum salmon from British Columbia to Puget Sound plants for canning; and there were minor quantities of salmon moved from Alaska points in a trade distinct in origin and methods from the former Bristol Bay freezership business.

Shipments from Puget Sound

● It is also notable that there was a substantially larger outward movement of Sockeyes from Puget Sound for canning than there were receipts.

This condition arose out of the practice of hauling Sockeye salmon in ice from Puget Sound points, notably Bellingham and Anacortes, to the Columbia River for canning. The volume of this trade was considerable, accounting for something more than 30,000 full cases of the canned product, although it fell short of expectations are result of the movement of a substantial part of the Fraser River run through non-treaty waters.

In expectation of glut conditions due to extremely heavy fishing, canneries made arrangements to move large quantities of Sockeye to canneries on the Columbia, where there was some surplus capacity. While the volume of fish actually transported in this trade was substantial, it was less than expected.

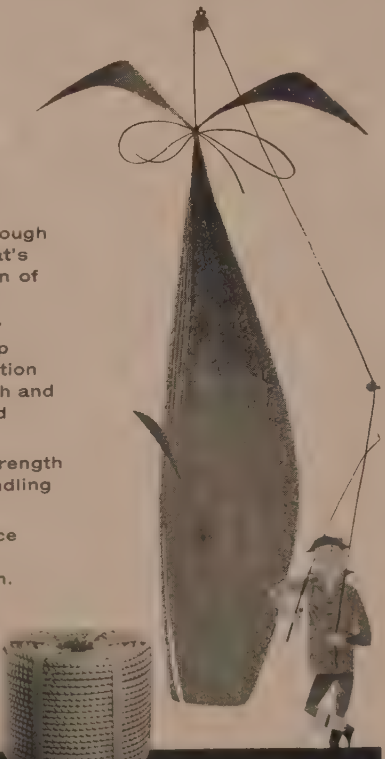
Fish Receipts for Canning

● Included in the Puget Sound canned salmon production figures in the accompanying table are fish caught elsewhere and brought into that area in fresh or frozen condition for canning.

While it is not possible to segregate such fish precisely, it is believed that imported fish accounted for full cases of canned salmon about as follows:

Imported Fish Canned
On Puget Sound

Source and Species	Full Cases Canned
British Columbia—	
Sockeyes	500
Chums	86,000
Silvers	5,000
Alaska—	
Reds	400
Chums	5,500
Silvers	4,000
Pinks	1,600
Japan—	
Silvers	400



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1958 -COLUMBIA RIVER CANNED SALMON PACK

COMPANY	CANNERY LOCATION	CHINOOK Fancy 1-lb. Flats & Ovals	Fancy 1/2-lb. Flats & Ovals	Fancy 1/4-lb. Flats & Ovals	TOTAL	Other Grades 1/2-lb. Flats (full cs.)	Other Grades 1/4-lb. Flats (48 lbs.)	TOTAL	SILVERSIDE 1/2-lb. Flats (full cs.)	1/4-lb. Flats (48 lbs.)	TOTAL	BLUEBACK 1/2 & 1/4 lb. Flats (48 lbs.)	CHUM 1/2-lb. etc. (full cs.)	STEELHEAD TROUT 1/2-lb. Flats & Ovals (full cs.)	1/4-lb. Flats etc. (48 lbs.)	TOTAL	GRAND TOTAL (full cs.)
Barbey Packing Corporation	Astoria, Ore.	---	9,284	---	9,284	1,266	---	1,266	---	---	---	1,159	---	736	---	736	12,445
Chinook Packing Company	Chinook, Wash.	---	1,784	---	1,784	2,383	---	2,383	---	521	521	905	1,200	---	---	---	6,793
Columbia River Packers Assn.	Astoria, Ore.	---	23,132	1,417	24,549	10,449*	255	10,704	1,233	5,483	6,716	3,310	302	82	3,687	3,769	49,350
Cowlitz Fish Company	Kelso, Wash.	---	444	---	444	2,316	---	2,316	49	---	49	---	119	---	---	---	2,928
New England Fish Company	Chinook, Wash.	---	7,209	---	7,209	685	---	685	---	---	---	1,414	---	---	---	---	9,308
Point Adams Packing Company	Hammond, Ore.	398	4,207	478	5,083	3,476	275	3,751	395	1,101	1,496	3,508	564	192	411	603	15,005
Portland Fish Company	Portland, Ore.	---	2,771	---	2,771	571	135	706	2	422	424	2,578	4,142	45	26	71	10,692
Union Fishermen's Co-Op. Packing Co.	Astoria, Ore.	696	5,583	2,637	8,916	1,847	42	1,889	169	95	264	1,771	3	841	276	1,117	13,960
Whitney & Company	Astoria, Ore.	---	9	---	9	---	---	---	387	---	387	15,586	45	---	---	---	16,027
TOTAL		1,094	54,423	4,532	60,049	22,993	707	23,700	2,235	7,622	9,857	30,231	6,375	1,896	4,400	6,296	136,508

NOTE: All figures given in 48-lb. full cases, or the equivalent. *Includes 549 cases of 1-lb. cans.

Qualitative Advance Noteworthy

● Columbia River salmon canning in 1958 rose narrowly above the low level of 1957, but the gain on a qualitative basis was much larger and more significant than the quantitative advance.

Thus both the fancy Chinook and the Blueback categories climbed sharply, while the lower grades of Chinooks, the Silvers, Chums and Steelheads fell. Significant element in this latter trend doubtless lies in the strong demand for these varieties on the fresh and frozen fish trade.

The Silver decline was particularly significant in volume, reflecting to some extent the trollers' pre-occupation with Albacore, plus the early concern of the market over supplies of frozen Silvers.

● Outstanding aspect of Columbia River salmon canning in 1958 was the 30,000-case pack of Bluebacks or Sockeye. This was the largest pack of this species to be made on the Columbia River since 1941, and before that since 1923.

While the 1958 run of native Bluebacks on the Columbia River was good, and made significant contribution to the pack of this species, it would not be realistic to overlook the fact that a very considerable part of the Columbia River pack in this category was composed of Sockeye carried from Puget Sound in refrigerated express trucks.

Bluebacks and Sockeyes are the same species, the former name being given *Oncorhynchus nerka* locally on the Columbia River, and to some extent in the minor fishery on the Quinault—and nowhere else.

Early Chinook Run Remarkable

● Sharp increase in the proportion of the total Columbia River pack composed of fancy Chinooks traces to an extraordinary feature of the first days of the season, when the fish are at their absolute prime.

The Columbia River fishing season of 1958 opened April 28 with extraordinary fishing—much heavier than usual—which led the fishermen to believe that their nets were intercepting the run of earliest spawners, which normally have passed upstream before that time.

This belief was further supported by the fact that, while the fishermen in the lower river were making extremely heavy catches for that period of the year, the numbers of fish using the fishways over Bonneville Dam was below normal.

Thus it appeared that the spring Chinook run was not only later than usual, but the fish showed a strange inclination to remain in the brackish water of the estuary, rather than to move upstream as rapidly as usual.

This hovering tendency, coming on top of their arrival after opening of the season, exposed the vital early run of spawners to high fishing mortality, particularly in the portion of the river immediately below the fishing deadline downstream from the Bonneville Dam.

Fishermen Protect Spawners Voluntarily

● Because they could act without official delays, the gillnet fishermen of the river decided on voluntary action to protect the resource. Accordingly, they withdrew their nets from the river after about three days of what they recognized as dangerously heavy fishing.

This remarkable action of the industry in voluntarily providing for escapement served to protect the spawners until the Oregon and Washington fisheries departments could get their emergency regulations into effect. These provided for closure until such time as 60,000 spawners had passed above Bonneville. As the run slowed sharply after about 40,000 fish had escaped, only about a week of fishing was permitted in May before the statutory closure came into effect May 27.

At about the time the fishing season was permitted to reopen after the 60,000 spawners had passed Bonneville there was a fish plant strike, effective May 21, which resulted in some curtailment of operations. At the same time, it is unlikely that the strike had any serious effect in cutting the 1958 Columbia River canned salmon pack, interfering more seriously with the fresh fish houses.

Resumption of salmon fishing on the Columbia just after the middle of June saw rather heavy deliveries for a short time, as usually happens following closure. The notable aspect of the run was the fact that 30% of the deliveries, *by weight*, consisted of Bluebacks. Thus it is evident that a considerable portion of the excellent 1958 Blueback pack came from local fish.

- Lateness of the Columbia River spring run of Chinooks, which reached the stream after the opening of the season, rather than 10 or 14 days before, may have been occasioned by the same abnormally warm ocean temperature conditions which were credited a few months later with delaying the arrival of the Fraser River Sockeyes by at least 12 days, diverting a large part of that run into Johnstone Strait, rather than through the normal approach via the Strait of Juan de Fuca.

The warmer-than-usual surface water along the North Pacific coast began to be manifest in 1957 and continued through 1958, with evident effect upon the runs of Sockeye and Albacore, and perhaps upon the Columbia River Chinooks as well.

- An interesting development in connection with Columbia River salmon canning was the long-term agreement between Union Fishermen's Cooperative Packing Co., Astoria, and Whitney & Co., Seattle, whereby the latter company's Puget Sound and Columbia River salmon, together with its Albacore requirements, would be canned at the Union Fishermen's Astoria plant.

In addition, Whitney & Co. was granted the right to use the Union Fishermen's famous *Gillnetters' Best* label in the entire United States, save for Oregon.

As result of this arrangement, considerable salmon was carried from Puget Sound operations of Whitney & Co. to the Columbia River for canning. The company did not rebuild its Anacortes cannery, which was destroyed by fire early in the year; but equipped its property there with facilities for receiving, refrigerating and forwarding fish by fast truck or in tender fitted with chilled sea water facilities.

1958 Columbia River Escapement

- The total fall Chinook run to the Columbia River, still the world's biggest producer of Chinook salmon, showed considerable improvement over all years since 1951, although far below those occurring prior to 1949. The good escapement to all areas and the low gill net catch was due to regulation restrictions and voluntary curtailment of fishing by fishermen along with the closure of the river above Bonneville dam to all commercial fishing.

Lower-Columbia river escapement was the best in several years, exceeding the 1957 and 1954 brood years. Counts in the Cowlitz River revealed

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best escapements since 1955 and nearly equal to any in the past 10 years. The escapement to mid-Columbia hatcheries near Bonneville was at a record high. The up-river escapement was considerably improved over previous years. Chinook escapement over Bonneville was 249,272, exceeded only in 1950 when 250,482 were counted over the fishways.

Without exception, the 1958 spawning escapement exceeded the brood year from which it was produced. The success of spawning based on the number of eggs retained in female carcasses randomly checked in some areas appeared excellent. One gloomy fact, however, is that it is questionable if the Snake River escapement above Brownlee dam spawned successfully, because of the breakdown of fish facilities at the dam and subsequent handlings of the fish in trapping them and transporting them around the dam.

COLUMBIA RIVER CANNED SALMON PACK

Salmon canning on the Columbia River commenced in 1866, with a pack of about 4,000 cases valued at $64,000; but no segregation by species is available prior to 1889. Production increased rapidly to a peak of 629,400 cases in 1883, valued at $3,147,000; then fell to 356,000, valued at $2,124,000, in 1887; the average output for intervening years being 351,091 cases, valued at $2,066,227.

YEAR	# of Can-neries	CHINOOK		BLUEBACK		SILVERSIDE		CHUM or KETA		STEELHEAD TROUT		TOTAL		YEAR
		Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	Cases	Value	
1888	28	...	...	...	...	...	..	...	...	...	...	372,477	$2,234,862	1888
1889	21	266,697	$1,600,182	17,797	$101,051	.	...	...	...	25,391	$108,587	309,885	1,809,820	1889
1890	21	335,604	1,946,087	57,345	290,069	...	...	...	...	42,825	171,300	435,774	2,407,456	1890
1891	22	353,907	2,038,566	15,482	284,242	...	...	...	...	29,564	118,156	398,953	2,440,964	1891
1892	24	344,267	1,996,388	66,547	372,909	4,176	$20,880	...	...	72,348	288,892	487,338	2,679,069	1892
1893	24	288,773	1,559,374	30,459	152,295	29,107	116,428	2,311	$6,933	65,226	260,904	415,876	2,095,934	1893
1894	24	351,106	1,896,976	43,814	224,430	42,758	171,032	...	. .	52,422	209,688	490,100	2,501,126	1894
1895	24	444,909	2,428,658	18,015	86,523	99,601	329,683	22,493	62,591	49,678	203,542	634,696	3,110,997	1895
1896	24	370,943	1,804,511	16,983	81,518	44,108	141,145		...	49,663	198,652	481,697	2,261,826	1896
1897	22	432,753	1,804,221	12,972	51,888	60,850	197,762	. .	...	46,146	165,440	552,721	2,219,311	1897
1898	23	329,566	1,490,394	66,670	300,015	65,431	222,465	...	...	26,277	60,352	487,933	2,073,226	1898
1899	17	255,824	1,458,175	23,969	134,723	29,608	112,055	11,379	33,836	11,994	39,186	332,774	1,777,975	1899
1900	16	262,392	1,821,258	13,162	92,184	44,925	202,163	17,696	63,706	20,597	102,985	358,772	2,282,296	1900
1901	...	...	...	...	...	...	...	. .	...	...	...	390,183	1,942,660	1901
1902	14	270,580	1,428,743	17,037	86,465	10,532	44,732	10,401	41,604	8,593	42,965	317,143	1,644,509	1902
1903	16	301,762	1,610,614	8,383	42,867	12,181	49,869	10,000	37,500	7,251	36,255	339,577	1,777,105	1903
1904	20	320,378	1,944,690	12,911	78,048	31,254	118,357	20,693	52,691	9,868	48,892	395,104	2,242,678	1904
1905	19	327,106	1,962,636	7,768	46,608	26,826	114,011	25,751	65,206	9,822	49,110	397,273	2,237,571	1905
1906	19	311,334	1,868,007	7,816	54,712	41,446	124,338	27,802	69,505	6,500	32,500	394,898	2,149,062	1906
1907	19	258,433	...	5,504	..	31,757	...	22,556	..	5,921	...	324,171	1,763,490	1907
1908	14	210,096	...	8,581	...	31,432	...	16,884	...	10,726	...	253,341	1,380,708	1908
1909	15	162,131	1,203,546	27,908	214,561	42,178	185,070	24,542	57,115	17,283	99,796	274,087	1,760,088	1909
1910	15	244,285	1,882,137	6,234	34,287	68,922	363,688	66,538	232,883	5,436	31,203	391,415	2,544,198	1910
1911	15	405,862	2,204,185	5,988	47,904	79,416	549,478	53,471	203,198	8,594	47,399	543,331	3,052,164	1911
1912	15	220,317	1,988,526	8,210	85,384	31,842	177,248	18,699	46,590	6,958	22,108	285,666	2,319,856	1912
1913	15	192,116	1,664,670	11,152	93,677	40,969	175,412	13,303	29,486	8,939	49,142	266,479	2,012,387	1913
1914	17	289,464	2,573,502	35,311	376,924	69,769	380,666	49,285	205,541	10,792	59,356	454,621	3,595,989	1914
1915	19	406,486	3,694,361	5,459	56,707	33,336	173,234	86,530	251,632	26,723	129,358	558,534	4,305,292	1915
1916	20	395,166	3,572,203	3,790	27,288	52,084	335,114	77,766	307,483	18,999	118,987	547,805	4,361,075	1916
1917	20	403,637	5,023,529	7,968	111,552	64,299	700,680	53,659	386,596	23,783	292,538	555,218	6,530,939	1917
1918	20	400,952	5,222,983	37,833	605,328	98,145	1,072,843	29,846	215,669	24,605	350,071	591,381	7,466,924	1918
1919	21	392,125	5,455,550	7,268	145,360	90,728	1,142,767	75,493	541,989	14,414	205,254	580,028	7,490,920	1919
1920	22	420,467	5,661,580	2,617	62,808	27,024	257,806	18,792	99,564	12,645	116,859	481,545	6,198,617	1920
1921	20	267,582	3,761,321	6,045	120,900	34,381	233,372	4,821	19,791	10,142	68,266	323,241	4,203,649	1921
1922	23	237,230	3,724,393	30,743	614,860	90,437	633,935	8,844	47,130	24,920	186,675	392,174	5,206,993	1922
1923	23	289,586	4,967,657	38,309	766,180	101,554	673,954	25,508	135,168	25,968	187,965	480,925	6,730,924	1923
1924	22	293,716	4,508,236	7,366	129,840	112,308	992,865	57,748	303,356	29,734	285,107	500,872	6,219,404	1924
1925	21	250,809	5,423,129	5,650	106,220	113,554	1,488,855	55,812	272,398	14,637	177,866	540,452	7,468,468	1925
1926	21	295,302	4,744,131	21,736	434,720	97,142	1,027,597	32,853	181,216	32,690	356,418	479,723	6,744,064	1926
1927	22	339,446	5,559,202	6,887	147,378	74,879	585,816	68,449	425,240	30,148	311,070	519,809	7,028,705	1927
1928	24	251,404	4,355,218	4,814	100,131	49,136	478,355	124,953	747,619	16,339	222,139	446,646	5,903,462	1928
1929	21	242,938	4,234,214	10,072	181,296	90,684	917,561	54,619	314,928	23,804	257,025	422,117	5,905,024	1929
1930	21	281,346	4,092,810	9,823	194,460	110,430	1,156,042	11,371	43,324	16,535	171,541	429,505	5,658,177	1930
1931	20	294,798	3,754,929	4,125	66,000	39,268	247,878	3,518	11,754	11,990	110,429	353,699	4,191,000	1931
1932	15	216,511	2,023,390	2,795	33,540	46,492	280,853	17,261	44,879	13,132	91,924	296,191	2,474,586	1932
1933	14	251,157	2,719,303	6,921	96,894	36,430	263,190	24,398	107,351	17,805	142,440	336,711	3,329,178	1933
1934	13	251,068	2,630,152	6,869	82,428	65,428	536,731	24,455	92,608	14,901	121,000	362,721	3,462,919	1934
1935	10	205,870	2,479,450	1,302	17,619	95,184	725,868	15,495	59,499	14,888	122,846	332,739	3,405,282	1935
1936	11	220,188	2,964,058	9,837	137,718	36,541	303,263	30,597	110,149	19,282	317,867	316,445	3,833,055	1936
1937	11	291,343	4,256,810	7,526	126,436	69,801	725,996	30,592	138,309	17,568	189,734	416,830	5,437,294	1937
1938	10	173,892	2,707,267	13,889	260,369	67,257	630,364	37,704	143,275	15,248	152,480	307,990	3,893,755	1938
1939	10	207,595	3,336,206	5,301	102,359	69,082	730,549	15,201	75,416	25,293	320,025	322,472	4,666,141	1939
1940	11	244,570	3,785,681	23,974	471,530	59,737	623,681	25,282	125,420	33,436	373,514	386,999	5,379,836	1940
1941	11	328,609	5,558,254	33,070	661,400	35,727	481,834	83,144	572,994	33,162	453,502	513,712	7,727,984	1941
1942	12	274,750	5,692,929	23,256	625,230	26,541	497,070	118,051	911,538	21,803	429,678	464,401	8,156,445	1942
1943	11	130,373	3,094,505	2,880	77,586	5,707	61,065	12,439	112,421	16,261	323,874	167,660	3,669,451	1943
1944	10	163,047	3,714,591	758	20,342	12,210	137,072	1,525	11,590	19,222	375,838	196,762	4,259,433	1944
1945	8	132,014	3,095,228	112	3,001	22,154	244,060	1,032	8,848	19,314	363,068	*175,670	3,723,456	1945
1946	11	159,872	5,940,740	9,726	369,588	6,883	206,490	§15,617	247,392	17,373	510,720	§209,471	7,274,939	1946
1947	10	250,318	8,613,000	15,079	664,000	42,789	1,278,000	17,121	252,000	21,999	650,000	347,306	11,457,000	1947
1948	12	235,310	9,342,000	3,339	147,000	39,425	1,099,000	26,201	498,000	19,977	615,000	324,242	11,701,000	1948
1949	12	133,347	3,682,000	**6,630	225,000	16,740	415,000	12,386	186,000	9,019	221,000	178,122	4,729,000	1949
1950	11	136,635	4,964,201	3,630	146,687	29,507	939,296	12,952	234,457	10,266	360,830	192,990	6,645,471	1950
1951	10	143,046	5,497,305	4,552	186,543	29,099	841,234	11,566	192,850	14,862	469,615	203,125	7,187,547	1951
1952	9	95,353	3,506,181	9,824	413,774	29,701	875,380	13,759	214,837	18,979	612,987	167,616	5,623,159	1952
1953	8	97,320	3,267,303	3,014	127,791	24,219	676,237	9,775	130,062	19,420	616,621	153,199	4,823,332	1953
1954	8	71,993	2,550,257	8,485	336,212	12,670	367,000	12,530	190,484	13,379	458,303	119,057	3,902,256	1954
1955	8	117,782	4,392,455	3,010	131,890	20,254	667,659	*6,774	126,875	13,737	462,857	*161,557	5,781,736	1955
1956	8	112,076	4,328,650	19,346	845,066	22.031	656.182	***5,497	130,233	8,171	295,294	167,121	6,255,425	1956
1957	8	87,420	3,738,912	8,496	470,061	28,725	1,024,847	§5,770	121,542	7,605	287,028	138,016	5,642,390	1957
1958	7	83,749	3,713,450	30,231	1,390,626	9,857	385,138	6,375	108,375	6,296	220,464	136,508	5,818,053	1958
Aver.	9	107,872	3,964,071	9,722	427,365	22,236	694,797	10,738	163,572	12,173	400,490	161,731	5,640,837	Aver.

NOTES:- "Average" is for the last ten years. Figures for the last year in this table are from PACIFIC FISHERMAN's compilation. Those for previous years have been revised from official data. *Includes 1,044 cases of Pinks canned from Puget Sound Fish. **Mostly Quinault River Bluebacks. ***Includes 588 cases of Pinks. § Includes 860 cases of Pinks.

1958-CANNED SALMON PACK OF COASTAL AREAS-1958

COMPANY	CANNERY LOCATION	CHINOOK or KING 1-lb. Talls	CHINOOK or KING ½-lb. Flats (8 doz.)	CHINOOK or KING Total (Full Cases)	BLUEBACK or SOCKEYE ½-lb. Flats (8 doz.)	BLUEBACK or SOCKEYE ¼-lb. Flats (48-lbs.)	BLUEBACK or SOCKEYE Total (Full Cases)	SILVER or COHO 1-lb. Talls	SILVER or COHO ½-lb. Flats (8 doz.)	SILVER or COHO Total (Full Cases)	CHUM 1-lb. Talls	GRAND TOTAL (Full Cases)
WASHINGTON												
Harbor Sea Foods Co.	Bay Center		. .	. .				.	.		486	486
Mohawk Packing Co.	Moclips	587		587	695	138	833	7	.	-	4,647	6,074
TOTAL WASHINGTON COAST		587	. . .	587	695	138	833	7	. .	7	5,133	6,560
CALIFORNIA												
Tom Lazio Fish Co.	Eureka	.	130	130			. .	.	.	.		130
TOTAL COASTAL AREAS		587	130	717	695	138	833	7		7	5,133	6,690

1958 Coastal Salmon Pack Scant in Volume

• Trend toward concentration of Pacific Northwest salmon canning on Puget Sound and the Columbia River continued to be manifest in 1958, with the pack of the coastal districts nominal—although more than twice that of the previous year.

This step-up in volume to 6,690 full cases resulted from the production of an increased volume of Chums, and a slight lift in Chinooks.

Bluebacks, on the other hand, amounted to barely one-third of the amount canned the year before. The Blueback pack of 833 cases in 1958 was the smallest for this species since 1953, and was a long way below the 5,076 cases packed in 1956.

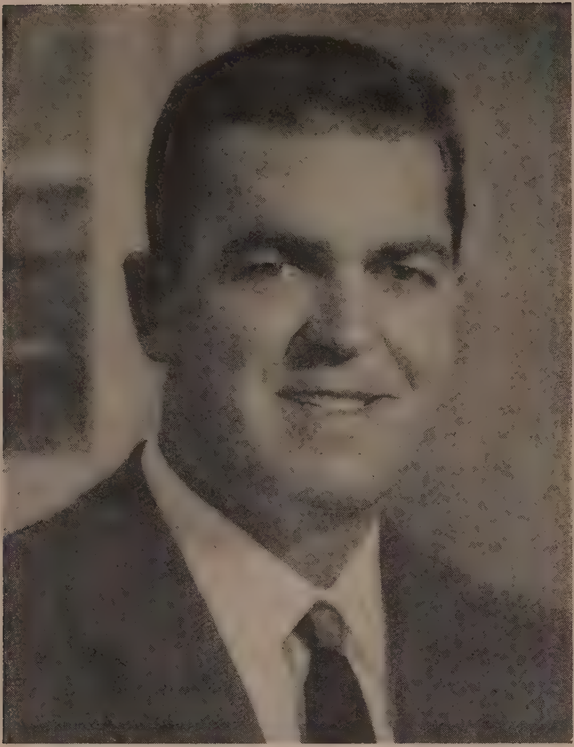
Whether the sharp reduction in Blueback pack was due to reduced catch or transportation of a larger quantity of the Washington coast Bluebacks to the Columbia River for canning is not yet apparent.

The species called Blueback on the Columbia River and Washington coast is identical with the Sockeye of Puget Sound and British Columbia, and the Red salmon of Alaska. It is generally regarded as reaching its peak of perfection on the Columbia and Quinault Rivers, however, and the fish from these two areas continue to be marketed under their local name, particularly in New York City and other metropolitan centers of the eastern states.

CANNED SALMON PACK OF COASTAL AREAS

Year	WASHINGTON Blueback	WASHINGTON Chinook	WASHINGTON Silver & Steelhead	WASHINGTON Chum & Pink	WASHINGTON Total Full Cases	OREGON Chinook	OREGON Silver & Steelhead	OREGON Chum	OREGON Total Full Cases	California TOTAL Full Cases	GRAND TOTAL Full Cases	Year
1919	1,244	5,029	17,174	39,995	63,442	26,089	43,114	7,081	76,284	22,766	162,492	1919
1920	235	921	405	26	1,587	30,571	4,490	.	35,061	21,055	57,703	1920
1921	2,590	2,010	4,897	5,281	14,778	15,632	122		15,754	10,376	40,908	1921
1922	26,491	2,573	13,354	10,939	53,357	12,270	11,769	2,248	26,287	9,700	89,344	1922
1923	10,454	1,794	5,172	38,523	55,943	10,526	22,606	14,279	47,411	6,000	109,354	1923
1924	6,778	1,506	5,493	32,760	46,537	16,351	30,449	14,603	61,403	12,936	120,876	1924
1925	4,821	3,816	6,677	35,342	53,276	22,404	18,872	14,410	55,686	22,339	131,301	1925
1926	2,720	2,441	3,182	17,377	25,720	19,130	7,033	4,838	31,001	11,537	68,258	1926
1927	5,260	4,195	1,983	25,452	36,890	17,456	13,390	181	48,619	15,585	101,094	1927
1928	2,006	52	415	34,109	37,031	5,411	8,136	5,500	19,047	4,237	60,515	1928
1929	4,449	213	1,158	35,699	41,519	4,700	2,313	8,047	15,060	2,774	59,353	1929
1930	21,536	49	2,160	11,846	35,519	11,252	981	.	12,233	5,171	52,995	1930
1931	8,476	61	501	11,225	20,263	4,234		8,600	12,834	12,280	45,377	1931
1932	14,263	308	1,152	22,236	37,959	8,524	.		8,524	780	47,263	1932
1933	6,754	845	424	7,735	15,758	7,150		500	7,650	2,149	25,557	1933
1934	3,323	2,344	1,453	15,370	22,490	4,100		2,000	6,100	820	29,410	1934
1935	6,217	3,685	10,009	7,351	27,262	2,500	.	2,400	4,900	874	33,036	1935
1936	705	1,137	1,883	16,038	19,763	. .	. . .	9,500	9,500	. . .	29,263	1936
1937	2,865	176	82	7,932	11,055	2,400	.	.	2,400	147	13,602	1937
1938	1,559	.		13,173	14,732	. .	.	.	. . .	. . .	14,732	1938
1939	. . .	.	.	6,381	6,381			2,200	2,200	. . .	8,581	1939
1940	138	23	504	9,142	9,807	647	643	1,000	2,290	. . .	12,097	1940
1941	24	.	.	27,428	27,452	1,000	2,500	5,400	8,900	1,125	37,477	1941
1942	1,235	. .		17,492	18,727	1,450	200	9,000	10,650	. . .	29,377	1942
1943		100	402	5	507	1,038			1,038	767	2,312	1943
1944		750	161	132	1,043	1,961	2,567		4,528	864	6,435	1944
1945		4,005	2,096	5,287	11,388		.		. . .	2,755	14,143	1945
1946	3,694	2,398	5,185	17,225	28,502	16,104	4,806	663	21,573	5,034	55,109	1946
1947	12,450	3,014	13,023	10,060	38,547	7,383	8,379	. .	15,762	13,917	68,226	1947
1948	4,021	1,805	12,060	8,642	26,528	7,553	7,052		14,605	11,681	52,814	1948
1949	7,577	419	3,856	6,285	18,137	827	55	.	882	. . .	19,019	1949
1950	3,969	2,755	8,034	12,902	27,660	3,190	4,817	.	8,007	1,801	35,667	1950
1951	2,643	1,495	4,161	12,597	20,896	500	50	. .	550	707	22,153	1951
1952	877	1,807	5,267	15,000	22,951	184	1,011		1,195	2,042	26,188	1952
1953	455	642	320	11,141	12,558		.			436	12,994	1953
1954	4,240	5	58	11,755	16,058	.	.			2,162	18,520	1954
1955	2,798	784	442	7,667	11,691	.	. .	.	.	847	12,538	1955
1956	5,076	2,637	163	2,389	10,265					694	21,524	1956
1957	2,634	165	199	1,194	4,192	. .				2,174	6,366	1957
1958	833	587	7	5,133	6,560				.	130	6,690	1958
Average	3,110	1,129	2,251	8,606	15,006	460	594	.	106	1,100	8,166	Average

NOTE:- All figures indicate "Full Cases" on a common basis of 48 lbs net, equivalent to 96 Halves or 192 Quarters. For some years a few Puget Sound Pinks are included with Chums in the Washington Coast pack. A few Steelheads are sometimes canned in these areas. Where they occur, they are included wit Silvers. The California pack consists almost entirely of Chinooks, but sometimes includes a few Silvers. "Average" is for the last ten years.



NICHOLAS TRUTANIC, Terminal Island, Calif.

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DEAN C. KAYLER, Petersburg, Alaska

- **MR. TRUTANIC** is vice president of Star-Kist Foods, Inc., Terminal Island, Calif., and is president of the California Fish Canners Association. He is in charge of Star-Kist production, ranging from California to Peru, and currently being extended to Puerto Rico.

- **MR. TAYLOR** is president of Norfish Sales Co., and vice president of Polar Freezer, Inc., both of Oakland, Calif. He has served five terms as a director of the National Fisheries Institute, one as a member of the Institute's executive committee, and at present is N.F.I. vice president for Region IV.

- **MR. KAYLER** is a partner in Kayler-Dahl Fish Co. of Petersburg, Alaska, and a man who has won and maintained the respect and admiration of Alaska and the fishing industry by his courageous devotion to his business in spite of the painful handicap of ill health.

1958 U.S. Tuna Pack Tops Record by 2.4 Million Cases

● American tuna canning in 1958 shot ahead of its previous best mark by a margin of 2.4 million cases and established a new-high at the incredible level of 14.3 million.

The gain was made all along the line, with California accounting for 1.7 million cases of the advance.

Greatest gain was made in the Los Angeles Harbor area, which alone produced 7.2 million cases. San Diego narrowly bettered its 1957 mark; but Central California operations advanced sharply and packed 548,000 cases.

Pacific Northwest and Hawaii, with almost one-third of the national Albacore pack, showed a moderate overall gain; but the greatest percentage gain of all was registered in the consolidated figures covering the Atlantic and Gulf coasts, Puerto Rico and Samoa, where the advance alone in 1958 was almost half of the previous year's total.

Moreover, 1959 opened with tuna marketing conditions sufficiently favorable to support the prospect of another year of vigorous operations.

● California's record pack of tuna in 1958 was produced from 229,086 tons of fish, of which the domestic fleet produced 157,067 tons, while 72,453 tons were imported.

These figures on imports are concerned only with fresh and frozen fish and do not take imports of canned tuna into consideration.

The 1958 imports ran far ahead of the 53,651 tons from foreign sources in 1957; and the imports also had a sharp gain in share of the total supply as well as in quantitative tonnages.

For example, in 1958 imports constituted 31.2% of the tuna supply available to California canneries. In 1957 the import percentage of the supply was 28.1%.

California landings of domestic tuna in 1958, including Albacore and transshipments from U. S. flag vessels, were 157,067 tons. The corresponding 1957 figure was 143,417.

This is an increase of about 8%, and it is largely accounted for by the phenomenal catch of Bluefin made by the purse seiners late in the summer.

Purse Seiners Hit Jackpot

● In 1958 a Bonanza of Bluefin was caught by the San Pedro purse seine fleet. Late in the summer the seiners found immense schools of Bluefin near the Channel Islands, and the year-end figures show a jump in the seiners' take of this species from 9,725 tons in 1957 to 15,160 in 1958, an increase of 56%.

The seiners also caught 2,128 tons of Bonito, which is 2,108 tons more than they caught in 1957; and nearly

1958 UNITED STATES TUNA PACK

REGION	Albacore Cases	Lightmeat Cases	Total True Tuna	Bonito and Yellowtail	GRAND TOTAL Std. Cases
California - San Diego	335,268	3,135,017	3,470,285	20,023	3,490,308
" - Los Angeles	932,919	6,211,797	7,144,716	87,050	7,231,766
" - Central Area	189,499	359,120	548,619	---	548,619
TOTAL California	1,457,686	9,705,934	11,163,620	107,073	11,270,693
Oregon, Washington & Hawaii	957,253	386,835	1,344,088	---	1,344,088
Atlantic & Gulf Coasts, Puerto Rico & American Samoa	672,105	1,010,741	1,682,846	---	1,682,846
GRAND TOTAL U.S. TUNA	3,087,044	11,103,510	14,190,554	107,073	14,297,627

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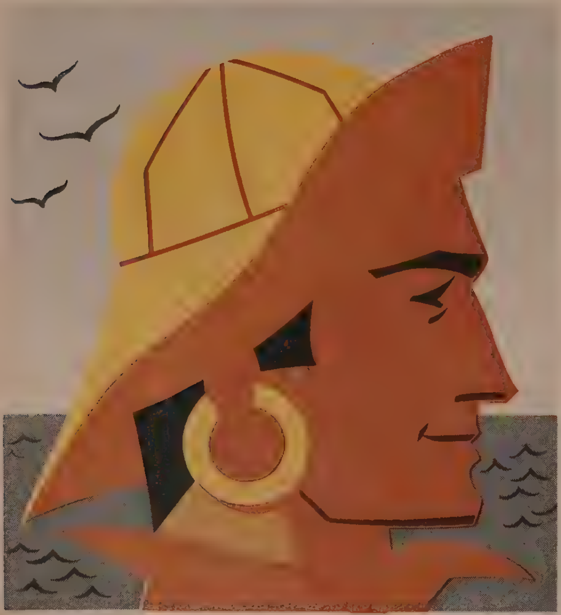

This rugged, adventurous-looking fisherman is the highly memorable trademark now on all our new Star-Kist Tuna labels.

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- Star-Kist Solid Light Tuna
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- Star-Kist Frozen Tuna Casserole
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5,000 tons more Yellowfin in 1958 than the year before.

Their overall year's total, therefore, showed up as 39,464 tons for 1958 as compared with 28,694 tons for 1957.

"El Nino" Blamed by Clippers

- Tuna clipper men believe they would have caught more fish in 1958 if it had not been for "El Nino", a below-the-Equator oceanographic condition in which a warm current every few years flows through the Southern fishing grounds and drives the food fish of the tunas, which prefer cooler temperatures, away from their usual haunts.

"El Nino" struck in 1948, in 1952 and 1953 and again in 1957 and 1958.

Nevertheless, the clipper-fleet catch last year was higher than 1957 by just about 3%, from 95,835 tons in 1957 to 98,666 last year. Fishermen had to work harder, but they came out of the year's effort with more fish.

Clippers, according to Harold Cary of the American Tunaboat Association, averaged four trips a year. Mr. Cary attributed this uninterrupted fishing to the operations of the A.T.A. auctions, which were held throughout the calendar year 1958.

According to Mr. Cary, the auction has eliminated entirely the problem of delays in port between trips, and clippers can now, after unloading one trip, sail on the next just about as soon as they are ready. Catches sold at auction are usually unloaded promptly, and since many trips are sold actually before the vessel is in port, delays are cut to a minimum.

A.T.A. Auction and Prices

- As a usual thing, American Tunaboat Association auctions were held every Monday and Thursday—with some exceptions for special reasons.

Prices, according to Mr. Cary, were somewhat lower than the 10-year average in spite of the fact that the catch increased at a much lower rate than the pack, or the market.

This disappointing price situation was due, Mr. Cary said, to the high level of imports, mostly from Japan; secondarily, the high purse-seine catch had a depressing effect on clipper auction prices.

A.T.A. auction prices had a sort of a floor built under them by the union fishermen, who demanded returns based on a minimum base price of $270 a ton for Yellowfin and $230 a ton for Skipjack, plus premiums for Yellowfin over 14 lbs. weight and Skipjack over seven lbs.

These floor prices were not always maintained at the auctions, and when the prices dipped under them, the boat

CALIFORNIA PACK OF CANNED TUNA AND RELATED FISHES

	SAN PEDRO DISTRICT								(Cases) SAN DIEGO DISTRICT										
YEAR	Yellowfin	Bluefin	Skipjack	Albacore	Flakes	Tonno	Tunalike (Bonito & Yellowtail)	TOTAL	Yellowfin	Bluefin	Skipjack	Albacore	Flakes	Tonno	Tunalike (Bonito & Yellowtail)	TOTAL	San Francisco & Monterey	GRAND TOTAL	YEAR
1926	122,968	67,525	189,581	43,660	11,786	90,689	47,710	573,919	96,363	2,758	85,389	14,555	4,162	40,864	15,416	259,507		833,426	1926
1927	185,423	40,363	155,755	105,598	7,816	197,275	26,660	718,890	200,635	9,645	226,420	20,181	435	10,221	20,147	487,984		1,206,874	1927
1928	323,813	85,994	64,061	99,093	7,577	106,038	14,759	701,335	287,770	46,348	130,430	658	9,156	11,783	9,798	495,943		1,197,278	1928
1929	199,292	67,091	128,436	130,212	7,707	88,454	49,943	671,135	458,687	22,637	218,696	2,426	10,906	31,351	13,027	757,730		1,428,865	1929
1930	262,278	302,660	82,282	143,748	11,508	57,110	73,049	932,635	739,616	6,944	185,848	1,783	18,053	17,875	17,635	987,754		1,920,389	1930
1931	182,115	46,462	166,091	144,796	12,850	35,514	37,289	625,117	431,229	...	112,307	177	6,501	706	3,096	554,016	.	1,179,133	1931
1932	275,263	8,510	101,626	52,215	11,517	42,247	34,348	525,726	403,050	177	203,381	. . .	4,774		10,881	622,263	13,162	1,161,151	1932
1933	258,982	7,580	74,728	49,391	10,907	41,200	19,281	462,069	678,810	1	198,313	. . .	2,183		50,797	930,104		1,392,173	1933
1934	317,846	325,350	71,350	82,182	22,402	55,163	38,961	913,254	780,066	6,683	195,798	....	8,100		23,409	1,014,056	.	1,927,310	1934
1935	306,202	413,630	88,746	107,501	33,909	81,660	108,203	1,139,851	948,276	24,871	249,747	4,648	7,749	545	101,039	1,336,875		2,476,726	1935
1936	343,234	311,987	184,930	53,849	9,906	57,797	85,404	1,047,107	1,074,811	22,390	295,330	35	14,967	740	131,802	1,540,075		2,587,182	1936
1937	416,611	188,432	276,165	83,123	34,534	136,612	88,870	1,224,347	1,165,866	27,103	487,751	8,036	15,904	1,125	88,182	1,793,967		3,018,314	1937
1938	273,365	273,358	151,081	265,034	47,092	67,404	119,270	1,196,604	1,010,814	49,840	221,917	24,355	17,381		77,818	1,402,128		2,598,732	1938
1939	578,727	191,456	212,042	281,666	41,104	70,022	151,241	1,526,258	1,348,565	27,020	257,258	46,372	31,136	7,318	32,463	1,750,402	28,637	3,305,297	1939
1940	536,391	267,343	306,447	122,484	85,459	124,094	106,225	1,548,443	1,469,428	45,867	529,776	19,304	141,861	60,138	49,621	2,315,995	3,873	3,868,311	1940
1941	308,886	136,333	109,563	73,024	40,545	33,530	161,835	863,716	1,016,759	32,369	323,466	10,145	130,004	308	144,331	1,657,382	9,071	2,530,169	1941
1942	214,391	250,685	128,980	128,670	39,880	23,479	34,542	820,627	545,517	28,413	590,594	104,578	111,096		35,138	1,415,336	6,257	2,242,220	1942
1943	303,881	162,844	88,203	187,052	120,548	17,239	96,595	976,362	392,114	12,021	294,964	227,347	381,967		12,298	1,320,711	11,342	2,308,415	1943
1944	341,687	357,531	105,863	125,632	234,639	15,365	20,817	1,201,534	485,796	16,473	257,994	307,806	530,368		7,521	1,605,958	1,685	2,809,177	1944
1945	460,982	275,116	89,279	148,286	452,292	16,198	34,628	1,476,781	1,037,009	22,742	458,895	329,251	96,162		32,524	1,976,583	3,078	3,456,442	1945
1946	663,814	304,248	202,729	141,629	558,026	. . .	88,589	1,959,035	1,549,557	28,753	445,560	233,622	268,767		63,762	2,590,021	6,341	4,555,397	1946
1947	765,426	342,309	209,281	104,726	417,644	7,403	308,540	2,155,329	1,875,087	6,557	695,170	145,300	323,511	26,359	68,927	3,140,911	61,258	5,357,498	1947
1948	969,732	94,190	200,693	290,811	477,769	22,663	270,404	2,326,608	2,364,819	1,991	729,505	426,255	366,828		39,420	3,964,818	55,526	6,346,952	1948
1949	614,847	38,142	157,373	289,063	1,330,358	78,821	49,195	2,557,799	2,059,468	2,889	904,793	535,013	420,491	4,038	24,884	3,951,576	81,021	6,590,396	1949
1950	742,815	14,786	266,809	586,683	2,456,705	202,368	14,595	4,284,761	913,458	3,300	495,462	482,894	1,898,568	54,988	7,741	3,856,411	143,243	8,141,172	1950
1951	611,673	.	....	337,456	2,670,876	104,235	77,229	3,801,469	974,469	....	.....	269,774	2,122,698	58,042	10,260	3,435,243	293,873	7,530,585	1951
1952	3,089,057	.	.....	814,198	1,216,024	86,948	196,453	5,402,680	1,354,515	....	.....	509,385	459,840	45,328	34,234	2,403,302	296,860	8,102,842	1952
1953	3,009,258	*	*	1,097,602	1,179,273	122,091	100,252	5,508,476	1,723,934	*	*	500,615	516,922	53,911	69,866	2,865,248	250,385	8,624,109	1953
1954	725,729	.	.	699,810	4,377,438	166,011	27,126	5,946,114	812,525	....	.....	249,972	2,147,546	64,155	48,409	3,322,607	369,962	9,638,683	1954
1955	672,464	. .		903,814	4,039,030	160,694	2,501	5,778,503	498,611	....	.....	244,599	1,476,445	42,186	2,213	2,264,054	307,121	8,349,678	1955
1956	565,289	...	...	613,312	4,717,583	122,074	3,978	6,022,236	586,218	....	...	234,984	2,179,516	60,745	2,516	3,063,979	576,364	9,662,579	1956
1957	501,952	.....	.....	830,372	4,942,747	102,544	3,924	6,381,539	519,059	....	.....	255,225	1,972,937	64,173	4,364	2,815,758	528,147	9,725,444	1957
1958	6,211,797	*	*	932,919	*	*	87,050	7,231,766	3,135,017	*	*	335,268	*	*	20,023	3,490,308	548,619	11,270,693	1958

*Segregation of lightmeat tuna pack as to species, and amounts of chunks, flakes and tonno not available at presstime. Accordingly, all lightmeat tuna and special packs made from lightmeat have been shown under Yellowfin. Albacore totals also include chunks, flakes and tonno packed from this species. ** Segregation of Central California pack from other districts not available.

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BREAST-O'-CHICKEN
CHUNK
BRAND
PACK
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TUNA

1958-IMPORTS OF FRESH AND FROZEN TUNA-1958

(POUNDS)

Fresh or Frozen	Oct. '57	Nov. '57	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	TOTAL
JAPAN - Total	8,679,000	6,661,000	9,014,000	12,091,000	8,575,000	7,646,000	10,849,000	9,146,000	15,434,000	18,984,000	20,611,000	16,771,000	144,461,000
Albacore	3,189,000	4,376,000	3,711,000	5,173,000	3,254,000	2,482,000	3,677,000	3,266,000	3,856,000	8,262,000	7,123,000	1,903,000	50,272,000
Other Tuna	5,490,000	2,285,000	5,303,000	6,918,000	5,321,000	5,164,000	7,172,000	5,880,000	11,578,000	10,722,000	13,488,000	14,868,000	94,189,000
PERU - Total	1,416,000	2,325,000	...	824,000	1,084,000	1,354,000	1,429,000	1,385,000	2,410,000	983,000	2,321,000	4,433,000	19,964,000
Albacore	. . .	.	. . .	...	...	..	...	...	. . .	..	..	...	. .
Other Tuna	1,416,000	2,325,000	. .	824,000	1,084,000	1,354,000	1,429,000	1,385,000	2,410,000	983,000	2,321,000	4,433,000	19,964,000
ECUADOR - Total	194,000	...	...	228,000	...	...	...	...	280,000	282,000	...	296,000	1,280,000
Albacore	...	..	...	..	...	...	...	...	...	...	...	...	...
Other Tuna	194,000	.	...	228,000	..	...	...	...	280,000	282,000	...	296,000	1,280,000
OTHERS - Total	. .	.	11,000	99,000	60,000	...	79,000	178,000	987,000	567,000	3,254,000	1,153,000	6,388,000
Albacore	. .	..	. .	...	10,000	...	...	...	...	...	1,627,000	874,000	2,511,000
Other Tuna	..	...	11,000	99,000	50,000	...	79,000	178,000	987,000	567,000	1,627,000	279,000	3,877,000

owners made up the difference to the men out of their own returns.

Average A.T.A. auction prices from January to July 1958, inclusive, were:

	Yellowfin	*Skipjack*
January	$269.53	$231.55
February	275.57	236.02
March	279.78	237.92
April	274.79	235.02
May	274.15	235.33
June	277.40	237.58

In August, auction prices went as high as $283 base for Yellowfin and $252 base for Skipjack; in September the high base for Yellowfin was $272, for Skipjack $232, with 75 tons of Skipjack sold at $245 straight; in October, base price of $270 and $230 held. In November prices dipped to $265-$226 lows, and at year's end the December lows hit $263 and $223.

Three-Way Relief Sought

- As Congress convened in Washington early in January, California representatives introduced three bills aimed at relieving the American tuna fishing industry from pressure of foreign imports.

One bill would put a duty of 3c per lb. on all imported frozen and cooked tuna. At present, there is no tariff at all on frozen tuna, and 1c per lb. on cooked tuna loins and discs.

The second of the three new bills would subsidize tuna fishermen to the extent of the difference between the prices they actually get for their fish and the "stabilization" prices written into the bill as:

Albacore, $380 a ton; Yellowfin and Bigeye $300, Bluefin $290 and Skipjack $260.

(Prices last season were around $425 a ton for Albacore, $270 for Yellowfin plus premiums for oversize fish; and $230 for Skipjack plus premiums).

The third measure would be a quota bill, holding tuna imports each year to 35% of the average apparent domestic consumption in the U.S. during the previous five years—or 20,000,000 lbs.

The first of the three bills omits all quota provisions, which were objected to by the Executive department. The third sets up a rigid quota despite Executive objection.

Congressman Utt this year returned to the Ways and Means Committee of the House, which will consider these bills. Last year during the Congressional struggle over tuna import control bills, Mr. Utt was not a Ways

1958 -IMPORTS OF CANNED TUNA- 1958

(Pounds)

Countries	Oct 1957	Nov. 1957	Dec. 1957	Jan. 1958	Feb.	March	April	May	June	July	August	Sept.	TOTAL
JAPAN - TOTAL	4,331,000	3,159,000	4,275,000	1,228,000	2,782,000	3,833,000	2,875,000	3,747,000	3,555,000	5,381,000	5,281,000	5,280,000	45,727,000
Albacore: Oil	41,000	71,000	19,000	18,000	2,000	46,000	...	35,000	26,000	61,000	26,000	66,000	411,000
Brine	1,700,000	954,000	964,000	177,000	907,000	877,000	752,000	1,058,000	1,029,000	2,232,000	1,634,000	1,528,000	13,812,000
Other: Oil	...	11,000	...	35,000	...	18,000	...	...	...	...	...	...	64,000
Tuna: Brine	2,590,000	2,123,000	3,292,000	998,000	1,873,000	2,892,000	2,123,000	2,654,000	2,500,000	3,088,000	3,621,000	3,686,000	31,440,000
PORTUGAL-Total	91,000	98,000	158,000	124,000	107,000	146,000	112,000	65,000	25,000	116,000	176,000	212,000	1,430,000
Albacore: Oil	...	...	...	...	...	...	...	...	...	...	...	...	...
Brine	34,000	...	61,000	34,000	27,000	20,000	.	...	...	...	...	...	176,000
Other: Oil	25,000	...	...	1,000	...	...	...	...	...	...	...	...	26,000
Tuna: Brine	32,000	98,000	97,000	89,000	80,000	126,000	112,000	65,000	25,000	116,000	176,000	212,000	1,228,000
PERU - TOTAL	33,000	47,000	83,000	17,000	16,000	42,000	..	..	...	6,000	..	29,000	273,000
Albacore: Oil	...	...	...	...	...	..	..	.	...	...	...	...	...
Brine	.	...	...	..	..	.	. .	..	...	..	...	...	...
Other: Oil	...	....	...	...	...	..	..	.	.	6,000	..	29,000	35,000
Tuna: Brine	33,000	47,000	83,000	17,000	16,000	42,000	...	...	...	...	.	...	238,000
ANGOLA - TOTAL	...	...	...	50,000	...	15,000	..	..	.	.	.	.	65,000
Albacore: Oil	...	...	...	...	...	...	.	...	...	...	...		.
Brine	...	...	...	...	...	...	.	..	...	.	..		..
Other: Oil	...	...	...	...	...	...	.		...	..	..	.	
Tuna: Brine	...	...	...	50,000	...	15,000	.	...	...	..	...	..	65,000
AZORES - TOTAL	58,000	23,000	...	77,000	...	40,000	20,000	...	18,000	84,000	50,000	52,000	370,000
Albacore: Oil	...	...	...	...	...	...	.	...	..		.		.
Brine	...	...	...	...	...	. .		..	...	. .			
Other: Oil	...	...	...	...	...	...	.	.	..	..	..		
Tuna: Brine	58,000	23,000	...	77,000	...	40,000	20,000	.	18,000	84,000	50,000	52,000	370,000
OTHERS - TOTAL	103,000	117,000	162,000	17,000	76,000	36,000	356,000	163,000	381,000	379,000	157,000	584,000	2,531,000
Albacore: Oil	11,000	2,000	...	1,000	...	4,000	2,000	26,000	24,000	.	4,000	15,000	84,000
Brine	22,000	...	...	...	...	...	87,000	...	8,000	64,000	14,000		195,000
Other: Oil	...	79,000	64,000	2,000	51,000	...	10,000	48,000	...	8,000	38,000	1,000	301,000
Tuna: Brine	70,000	36,000	98,000	14,000	25,000	32,000	257,000	89,000	349,000	307,000	101,000	573,000	1,451,000

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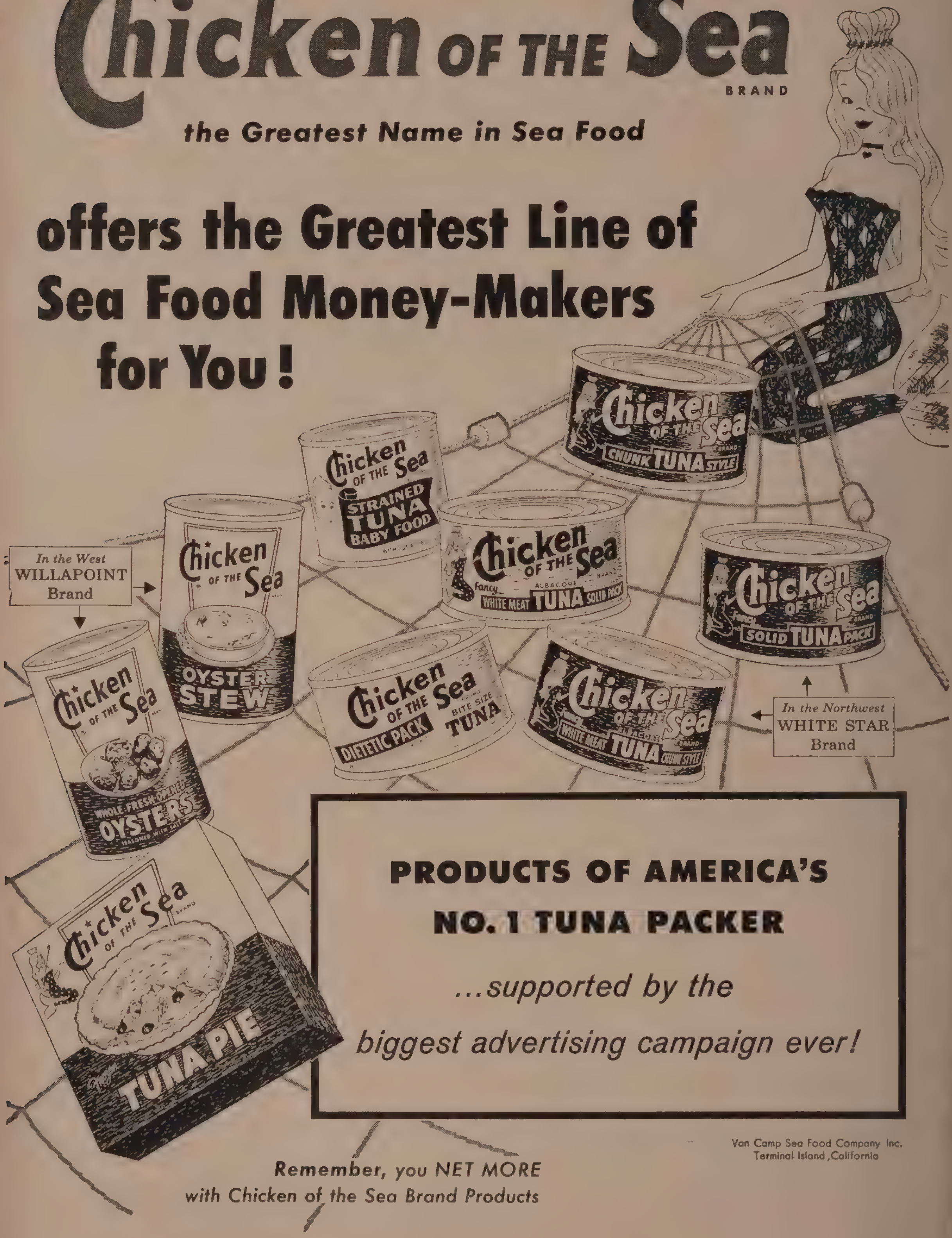
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CALIFORNIA TUNA PACK BY MONTHS-1958

(Cases)

	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Total Cases 'As they run'	Total Cases Basis 48-1/2s
ALBACORE - Whitemeat:														
Solid Pack	45 374	23,104	30,375	41 814	72 302	40 463	191,136	215,852	122 467	66 868	36 874	41 310	927,939	
Standard Pack	1 108	15	---	---	---	---	---	---	---	---	---	---	1,123	
Chunk Pack	45,867	79,003	20,200	15 696	21 422	4 326	56,252	67,578	52 540	21,916	2,354	2,934	390,088	
Grated & Flakes	10,080	8,793	6,027	6,627	12 902	8 142	35,681	48,997	29,463	13,571	6,022	6 732	193,037	
Dark & Light	1,146	---	---	56	943	93	129	232	---	---	---	---	2,599	
Tonno	---	---	---	---	---	---	---	165	---	---	---	---	165	
Unspecified	1,374	---	---	6,579	---	---	276	3,099	---	---	298	---	11 626	
Total Whitemeat	104,949	110,915	56 602	70 772	107 569	53 024	283 474	335,923	204 470	102,355	45 548	50 976	1 526,577	1 457 686
LIGHT MEAT														
Solid Pack	91,871	41,850	47,042	126,056	123,076	113,127	133,675	102,375	64 160	64 232	61,886	94 154	1 063,504	
Standard Pack	1,451	---	---	---	246	354	---	---	3 399	---	14 786	7 847	28,033	
Chunk Pack	405,629	481,484	444,915	545,912	525,472	584,711	1,009,160	944,031	718 614	493,414	449,098	586 525	7,190,965	
Grated & Flakes	62,960	70,638	65,007	85,702	96,799	98,993	167,831	158,549	95,186	72 734	67,525	78 500	1,120 424	
Dark & Light	9,497	4,146	6,275	6,728	4,528	6,248	7,895	5,397	3,763	3,022	5,883	7 100	70 482	
Tonno	18,918	17,698	15,258	19,278	13,864	12,496	10,689	15,323	10 341	22 500	7 681	6 900	170 946	
Unspecified	1,209	6,098	3,979	10,035	2,211	---	2,788	3,640	29 331	20,470	13 904	1,674	95 339	
Total Lightmeat	591,535	621,914	582,476	793,711	766,196	815,929	1,332,038	1,229,315	924 794	676,372	620 763	784 700	9 739,743	9,705 934
Bonito & Yellowtail														
Solid Pack	---	---	---	---	---	---	332	---	---	---	---	---	332	
Standard Pack	156	156	---	---	---	---	2,000	---	---	---	---	--	2 312	
Grated & Flakes	458	3,902	5,645	1,845	---	518	26,620	2,487	1 764	817	---	---	44 [illegible]	
Chunks	10	---	4,651	358	229	---	26,903	19,343	4,552	3 867	460	---	0,373	
Total Tuna-Like	624	4 058	10 296	2,203	229	518	55,855	21,830	6,316	4,684	460	---	107 073	107,073
GRAND TOTAL	697,108	736,887	649,374	866,686	873,994	869,471	1,671,367	1,587,068	1 135,580	783,411	666 771	835 676	11,373,393	11,270,693

and Means Committeeman.

Most elements of the industry favoring import control legislation felt that it should limit imports to a certain percentage of the apparent American consumption; that it should equalize the tariff on canned tuna in all forms; that it should fix a tariff on frozen imports; and that it should base the tariff on frozen loins and discs on the round weight of the tuna represented by these semi-finished commodities.

Puerto Rico's Tuna Packing Business in New Growth Phase

● Puerto Rico's tuna canning operations are expected to advance sharply in 1959 with the completion of the new cannery being built by Star-Kist Foods, Inc., at the west end of the island. This will give Puerto Rico a second large tuna plant, in addition to the National Packing Co.—a Van Camp subsidiary—at Ponce.

Beside these two establishments, there were reports early in 1959 that another of the leading factors in American tuna canning was giving consideration to establishment of a plant in the Caribbean commonwealth.

As a means of supplying the Puerto Rico plants most effectively, transshipment stations served by refrigerated transports are being established in Haiti and Panama. Thus fishing vessels working in the Atlantic, Caribbean, or the Pacific in the vicinity of the Isthmus could deliver their catches at these stations, from which they would be carried to the cannery by specialized transports, releasing the fishing vessels for return to its fundamental function—fishing—and relieving it of the costly chore of long-range transportation.

Such transfer stations would not only provide a facility for American flag vessels but also would enable foreign fishing craft to supply the Puerto Rican, or American mainland, plants by virtue of transshipment provisions of the American customs law.

A substantial tonnage of Atlantic tuna—most of it caught by Japanese vessels—was transshipped and transported to Puerto Rico during 1958; with prospects indicating large gains in this direction in 1959.

Japanese tuna fishing operations in the Atlantic Equatorial Belt were stepped-up in activity in 1958, although there was plain evidence of declining abundance as the virgin stock of large fish was reduced. Japanese scientific opinion holds that this decline probably will continue for several years until the fishery reaches a level of productivity which will be sustained by the annual increment to the stock.

● In one of the most significant buy-and-sell transactions in the tuna business in a number of years, a group of San Diego businessmen, including several tuna clipper owners, formed American Tuna Canning, Inc., and purchased the plant and physical assets of South Coast Fisheries, Inc., one of the active "independent" tuna canning companies with a plant on Fish Harbor, Terminal Island, Calif.

American Tuna Canning, Inc., is headed by Kenneth J. Berglund, formerly an executive on the staff of Westgate California Corporation of San Diego. Vice president is W. Wade Ambrose, tuna fleet owner and former president of Westgate. Other directors include Fred Kunzel, San Diego attorney; James B. Lane, an advertising executive who is a former president of Westgate California; M. Machado Medina, Edward P. Silva and Sam Crivello, tuna vessel owners.

1958 Albacore Ranged North

● Water temperatures in the eastern North Pacific were well above normal in 1958 and the Albacore apparently ranged further north in larger volume than they have in 12 years. California Albacore fishing began late and erratically. The fish were found to be moving rapidly, apparently in a definite migration, and generally to the north.

With the fishery southwest of San Diego and off Southern California far below the average of recent years, numerous vessels followed the schools north. No less than six San Diego clippers fished out of Oregon ports during the season, making fair catches in spite of weather which handicapped the operations of all but the largest vessels.

For 1958 as a whole, the California landings of domestic Albacore were counted at 12,633 tons, including a substantial tonnage caught off Oregon, but landed in Southern California.

This compared with California landings of 18,888 tons in 1957, a decline of 6,255 tons, or about one-third.

The bright spot of the season was price. With a bad season for Albacore in Japan, imports were down, and the domestic price per ton was around

$425, comparing favorably with the $280 price in 1957.

Albacore imports for the year were 13,683 tons for 1958, as against 19,543 tons for 1957.

For the first time last year, a small quantity of Albacore was sold at the American Tunaboat Association auction in San Diego.

An interesting shift in personnel was the appointment early in 1959 of Anthony Nizetich, a San Pedro attorney, as manager of the Fishermen's Cooperative Association of San Pedro, succeeding Mason Case, who has held the position for a number of years, and who resigned to enter private business.

● Tuna, the ocean they live in, the food they eat, their migrations, populations, the effect of fishing mortality on the supply of, all are the subjects of continuing studies by scientists and researchers of a number of organizations and agencies.

The information these researchers have turned up is ready now to be reviewed and reorganized into usable form for the commercial fisheries.

The Inter-American Tropical Tuna Commission, an international body, whose work is directed by Dr. M. B. Schaefer, studies the relationship between the fish, the fishery, the bait fish it uses, and the ocean. The commission's research has shown at least one important fact conclusively: The eastern Pacific tuna resource is not now overfished. There is no current conservation problem.

Much incidental information has been developed by the Commission, which, under Dr. M. B. Schaefer, is continuing its good work.

The Scripps Institute of Oceanography is carrying on research under Dr. Maurice Blackburn on ocean conditions and their relation to tuna.

Last year Scripps anchored out the first of its series of unmanned scientific skiffs, which are automatic floating observatories recording water temperature and other physical data.

The Pacific Oceanic Fishery Investigations, based on Hawaii, carries out researchers on the mid-Pacific tuna resources.

The U. S. Bureau of Commercial Fisheries in 1959 will initiate a co-ordinated tuna research program, whose goal, as expressed by Don Johnson, co-ordinator of activities for Southern California, is simply to establish the means whereby fishermen can get to the fishing grounds, catch a load of fish and bring it back to port in the best condition possible, in the shortest possible time.

Boats Launched, Boats Lost

● National Steel & Shipbuilding Co. of San Diego launched the *Carol Virginia* and the *Lois Seaver*, two new vessels of the sister-ship series produced by National over the past several years. All steel, these have a fish capacity of about 345 tons, are 127' long. Under the ownership of National Marine Terminals, Inc., they are fishing for Breast-o'-Chicken (Westgate), San Diego.

Mermaid and the *Royal Pacific* went down, but losses by sinking were the lowest in many years.

It should be said that the design and building of tuna vessels is far from a dead industry. Although conditions in the past few years have not been encouraging for building many tuna vessels, there are a few designers and builders whose heads are teaming with ideas for re-designing the conventional tuna boat entirely.

Their ideas are in line with the conviction that to stay in business, American tunaboats must fish more efficiently, must bring in more fish per unit of effort.

Fishing methods may have to undergo big changes, and the vessels to be used must also, it is said, be re-designed. One possibility is the elimination of bait catching from a tuna vessel's operations. If bait can be either supplied some other way, or possibly eliminated altogether by new fishing methods, the boats will make more money, according to some designers' views, but a baitless boat would need to be of a different design from today's clippers.

The Good With the Bad

● The year 1958 was not what anyone could call a boom year for the tuna *fishing* industry; yet it could have been worse.

The tuna canning industry, on the other hand, could call 1958 a good, if not excellent year. Sales and the pack were up to new records; new packages and products showed an aggressive spirit of progress; consumer acceptance of tuna as a staple food grew stronger; but prices left a lot to be desired.

Deliveries of Tuna in California

(Pounds)

Year	Albacore	Bluefin	Bonito	Skipjack	Yellowfin	Shipments*		TOTAL
						Light Meat	White Meat	
1926	2,469,921	6,526,533	3,121,604	20,951,348	12,564,986			45,634 392
1927	4,579,367	4,898,386	1,718,008	33,805,960	25,934,045			70,935,768
1928	283,321	13,700,870	2,105,903	15,948,104	32,253,206			64,291,404
1929	269,101	7,796,857	2,918,544	27,007,013	37,444,924			75,166,439
1930	283,117	21,921,282	5,164,260	20,485,587	56,654,181			104,508,427
1931	37,322	3,534,030	3,079,673	16,506,761	36,579,480			59,737,266
1932	619,694	1,071,206	2,862,286	21,636,577	36,923,410			63,113,173
1933	487	560,492	2,252,199	16,687,308	51,075,630			70,576,116
1934	171,105	18,357,828	3,232,694	14,830,194	60,913,160			97,474,981
1935	2,447,528	25,173,083	7,896,484	17,197,186	72,294,133			125,008,414
1936	956,771	18,924,883	7,215,916	27,006,105	78,352,644			132,456,319
1937	3,196,770	12,693,922	7,808,070	47,104,092	91,522,458			162,325,312
1938	12,522,594	17,728,031	7,839,993	22,653,631	78,288,144			139,032,393
1939	12,346,858	11,835,715	9,918,875	30,120,891	110,417,801			174,640,140
1940	5,588,670	18,970,268	5,290,928	56,650,155	113,898,209			201,398,266
1941	3,276,257	9,519,012	10,257,602	25,585,468	76,701,760			125,340,099
1942	10,621,193	12,844,564	1,650,689	38,715,182	41,167,441			104,999,069
1943	21,384,864	10,178,170	2,281,884	28,893,784	49,261,328			117,004,030
1944	17,865,866	20,332,011	818,871	29,964,377	62,236,029	972,721**	2,535,547**	134,761,422
1945	21,767,581	20,594,059	2,714,181	33,273,407	86,130,656	1,392,078	60,901	165,932,863
1946	18,064,047	22,031,748	5,625,648	40,877,307	126,425,688	1,028,674	...	214 056,112
1947	13,145,780	20,837,634	13,697,171	52,315,449	149,066,794	1,539,245	269,397	250,871,470
1948	36,425,846	6,528,807	9,135,126	58,752,316	191,635,651	168,544	1,141,747	303,788,037
1949	44,017,014	4,389,471	1,829,541	78,564,030	184,972,285	691,109	254,664	314,718,204
1950	61,746,421	2,738,963	695,614	124,724,565	182,224,422	11,360,744	4,378,420	387,869,149
1951	30,677,931	3,862,418	776,803	115,778,923	160,547,928	16,018,444	17,520,891	345,183,338
1952	49,789,314	4,576,685	2,142,157	84,734,226	178,376,101	11,301,336	22,525,248	353,445,067
1953	33,834,626	9,172,855	3,102,647	122,306,183	132,086,346	16,888,789	46,186,816	363,578,262
1954	26,107,290	21,024,820	2,319,060	153,756,190	119,401,795	47,434,639	38,466,383	408,510,177
1955	29,001,811	13,609,177	136,990	101,837,635	122,291,864	60,072,312	44,844,675	371,794,464
1956	37,042,581	12,625,968	127,614	120,153,222	149,280,994	71,600,590	20,322,775	411,153,744
1957	43,466,941	20,312,596	219,031	90,498,163	136,955,837	39,564,027	67,174,436	398,191,031

*These are largely importations into California, but included are some fish caught by California fleet and landed outside of the United States

**Shipments not available prior to 1944.

Pacific Northwest Tuna Packs

(Oregon and Washington - in Standard Cases)

	Albacore				Lightmeat					
Year	Solid	Chunks	Flakes	Total	Solid	Chunks	Flakes	Total	Total	Year
1955	438,945	39,583	105,412	583,940	7,308	209,367	24,760	241,435	680,380	1955
1956	642,218	54,751	123,785	820,754	22,550	378,238	38,862	439,650	1,260,404	1956
1957	561,291	67,510	140,042	768,843	10,484	318,473	11,321	340,278	1,109,121	1957

3 Northern California Canneries Pack 543,000 Cases Tuna

● Northern California tuna packers packed most of 1958, using both domestic and imported fish.

Company officials said that current prices were again unsatisfactory. Private label chunk tuna early in 1959 was selling for $9.50 per case; light meat solid pack, $11.00; and white meat, solid, $12.25.

Packers were reported to be unhappy with these prices due to the high price of fish, which was $425 per ton for local caught Albacore. However, northern California canneries took this fish to their capacity to handle. Demand for tuna was reported to be excellent.

Some 3,233 tons of Albacore were landed in central and northern California for the first 10 months of 1958. However, a great portion of this fish was trucked to southern California canneries for processing.

The 1957 catch of Albacore was 3,421 tons.

Imports of frozen tuna for canning, entering through the San Francisco customs district in 1958 totalled 1,816 tons, as compared with 8,323 tons in 1957 and 8,027 tons in 1956.

The 1958 imports consisted of 3,006 tons of Albacore, 213 tons of Skipjack, and 7,597 tons of Yellowfin.

The 1957 pack of tuna in northern California was 528,147 cases, as compared to a pack of some 507,116 cases in 1956.

During 1958 only three canneries packed tuna in northern California. These were Tom Lazio Fish Co., Eureka; Washington Packing Corporation, and F. E. Booth Co., Inc., San Francisco.

North Coast's 1958 Tuna Catch is Best in Years

● Best run of Albacore in years appeared off the Pacific Northwest states — notably Oregon — during the late summer of 1958. This went a long way in offsetting the adverse effect of the short supply of Albacore from Japan, and the relatively low level of the Albacore fishery out of Southern California.

As a matter of fact, not a small part of the Albacore tonnage credited to Southern California in 1958 actually consisted of fish taken off Oregon by California clippers and taken south for sale late in the season.

It is perhaps significant of trends that more than half — 1.63 million cases out of a national total of 3.08 million—of the American pack of Albacore was produced outside of California.

● Albacore landings by local fishermen in Oregon in 1958 approximated 9.5 million pounds, being the fifth best year since the fishery began in the waters off that state in 1936.

The Oregon production far outstripped the 2.7 million pounds landed in the state in 1957; and exceeded any year since 1945.

The peak year in Pacific Northwest tuna fishing was 1944, when the Oregon landings alone were 22.4 million pounds. From this peak deliveries in Oregon fell to 4.5 million pounds in 1954.

Fishermen attributed the greatly improved North Coast Albacore fishing to warmers waters off the coast, although it was notable that the fish were not found north of the Columbia River in volume, where in the early Forties, with lower water temperatures, catches of commercial importance were made off the British Columbia coast to the northerly end of Vancouver Island.

Loin Imports Resumption Stimulates Smaller Operations

● Production gains of 1958 in Central California, Pacific Northwest and Atlantic Coast areas probably were limited by the embargo on shipment of cooked and frozen tuna loins which the Japanese government laid on this trade during much of the year. This action was taken in an effort to appease certain elements of the American tuna industry which objected to the importation of the prepared loins.

In the autumn of 1958 the embargo was lifted and the resumption of shipments had some effect in stimulating activity during the latter part of the year. The effect of the resumed trade, however, was expected to be more noticeable in the operations in these loin-using areas during the first quarter of 1959.

● While imports of frozen tuna reaching the Pacific Coast in 1958 continued to come very largely from Japan, flow from the New Hebrides commenced during the year. This fish

OREGON - WASH. IMPORTS OF FROZEN TUNA BY MONTHS

(Tons)

SPECIES	Nov. '57	Dec. '57	Jan. '58	Feb.	Mar.	Apr.	May	June	July	August	Sept.	Oct.	TOTAL
TUNA: Albacore	465	245	665	450	213	1,616	360	1,303	1,110	1,670	714	109	8,920
Other	265	50	350	.	10		...	...	65	284	1,150	248	2,422
Unclassified		15	.	.	110	295	1	35	212	320	525	407	1,920
TOTAL	730	310	1,015	450	333	1,911	361	1,338	1,387	2,274	2,389	764	13,262
1956 - 57 All Tuna	1,282	1,203	78	1,273	601	1,342	520	636	2,158	4,577	626	1,844	16,140

NORTH PACIFIC ALBACORE TUNA LANDINGS

(POUNDS)

OREGON			YEAR	WASHINGTON					Combined Oregon and Washington TOTALS
Columbia River	South of Columbia	Oregon TOTAL		Puget Sound	Grays Harbor	Willapa Harbor	Columbia River	Washington TOTAL	
			1948						
1,990,811	652,747	2,643,558	July	62,312	1,578,549	58,561	162,821	1,862,243	4,505,801
2,723,713	962,938	3,686,651	August	390,672	3,318,286	123,892	348,561	4,181,411	7,868,062
932,365	422,249	1,354,614	September	169,900	116,808	61,822	. . . .	348,530	1,703,144
33,053	124,329	157,382	October	14,938	36,521	6,890	. .	58,349	215,731
5,679,942	2,162,263	7,842,205	1948 TOTALS	637,822	5,050,164	251,165	511,382	6,450,533	14,292,738
			1949						
526,928	104,676	631,604	July	31,968	654,685	32,382	51,073	770,108	1,401,712
1,625,236	519,676	2,144,912	August	825,487	2,174,227	79,840	93,094	3,172,648	5,317,560
1,301,185	923,260	2,224,445	September	6,860	287,086	. . . .	2,507	296,453	2,520,998
1,073,558	224,787	1,298,345	October	75,601	115,196	. . . .	. . . .	190,797	1,489,042
26,273	1,361	27,634	November	3,895	. . . .	. . .	. . .	3,895	31,529
4,553,180	1,773,760	6,326,940	1949 TOTALS	943,811	3,231,194	112,222	146,674	4,433,901	10,760,841
			1950						
1,430,466	233,420	1,663,886	July	152,213	1,506,955	130,851	365,227	2,155,246	3,819,132
1,114,353	787,569	1,901,922	August	317,068	1,563,558	78,253	108,101	2,066,980	3,967,902
254,458	241,514	495,972	September	34,672	7,293	. . . .	. . . .	41,965	537,937
1,046,105	171,781	1,217,886	October	. .	22,084	. . . .	. . . .	22,084	1,239,970
210,851	. . . .	210,851	November	. . . .	. . . .	. . . .	. . .	. . .	210,851
4,056,233	1,434,284	5,490,517	1950 TOTALS	503,953	3,099,890	209,104	473,328	4,286,275	9,778,792
			1951						
25,527	15,656	41,183	July	. .	52,442	1,520	. . .	53,962	95,145
186,450	30,336	216,786	August	20,528	88,817	18,121	1,098	128,564	345,350
667,145	635,503	1,302,648	September	21,106	171,236	34,712	. . .	227,054	1,529,702
1,012,583	241,741	1,254,324	October	92,355	19,554	. . . .	. . . .	111,909	1,366,233
90,878	10,726	101,604	November	. . . .	. . . .	. . . .	. . . .	. . . .	101,604
1,982,583	933,962	2,916,545	1951 TOTALS	133,989	333,049	54,353	1,098	521,489	3,438,034
			1952						
10,050	3,944	13,994	July	. .	515	. . . .	. . . .	515	14,509
8,039	115,060	123,099	August	. . . .	1,997	3,642	. . .	5,639	128,738
284,663	1,014,502	1,299,165	September	8,269	31,840	14,138	. . .	54,247	1,353,412
792,615	47,424	840,039	October	41,733	48,109	. . . .	. . . .	89,842	929,881
252,102	4,364	256,466	November	22,308	. . . .	. . . .	. . . .	22,308	278,774
52,591	. . .	52,591	December	. . . .	4,512	. . . .	. . . .	4,512	57,103
1,400,060	1,185,294	2,585,354	1952 TOTALS	72,310	86,973	17,780	. . . .	177,063	2,762,417
			1953						
21,378	. . . .	21,378	August	. . .	620	. . . .	. . . .	620	21,998
60,238	505,950	566,188	September	1,062	2,515	. . . .	. . . .	577	569,765
145,034	39,912	184,946	October	18,426	14,211	. . . .	. . . .	32,636	217,583
	1,000	1,000	November	.		. .	. .	. .	
226,650	546,862	773,512	1953 TOTALS	19,488	17,346	. . . .	. . . .	36,834	809,346
			1954						
33,054	65,898	98,952	September	344	8,773	. . . .	. . . .	9,117	108,069
262,381	84,788	347,169	October	100,358	2,634	. . . .	. . . .	102,992	450,161
8,115	2,122	10,237	November	15,804	10,181	. . . .	. . . .	25,985	36,222
			December	13,231	. . . .	. . . .	. . . .	13,231	13,231
303,550	152,808	456,358	1954 TOTALS	129,737	21,588	. . . .	. . . .	151,325	607,683
			1955						
11,205	15,676	26,881	September	. . . .	. . . .	. . . .	. . . .	. . . .	26,881
275,041	43,176	318,211	October	200,000	. . . .	. . . .	. . . .	200,000	518,211
158,212	. . . .	158,212	November	. . . .	. . . .	. . . .	. . . .	. . . .	158,212
444,458	58,852	503,304	1955 TOTALS	200,000	. . . .	. . . .	. . . .	200,000	703,304
			1956						
208,832	234,990	443,822	August	. . . .	39,492	2,457	15,414	57,363	501,185
2,310,558	308,359	2,618,917	September	32,216	189,769	. . . .	163,199	385,184	3,004,101
415,568	9,124	424,692	October	160,491	10,009	. . . .	. . . .	170,500	595,192
156,962	. . . .	156,962	November	16,681	. . . .	. . . .	. . . .	16,681	173,643
7,594	1,534	9,128	December	. . . .	. . . .	. . . .	. . . .	. . . .	9,128
3,099,514	554,007	3,653,521	1956 TOTALS	209,388	239,270	2,457	178,609	629,728	4,283,249
			1957						
50,232	32,427	82,659	July	455	9,085	. . . .	2,269	11,809	94,468
441,547	454,516	896,063	August	1,008	41,054	. . . .	100,089	142,151	1,038,214
466,888	159,486	626,374	September	56,584	10,427	. . . .	7,278	74,289	700,663
796,109	268,109	1,064,218	October	128,100	1,055	. . . .	. . . .	129,155	1,193,373
31,215	978	32,193	November	. . . .	. . . .	. . . .	. . . .	. . . .	32,193
1,785,991	915,516	2,701,507	1957 TOTALS	186,147	61,621	. . . .	109,636	357,404	3,058,911
			1958						
148,051	245,310	393,361	July	. . . .	. . . .	. . . .	22,531	22,531	415,892
2,817,481	2,552,760	5,370,241	August	72,215	672,164	1,953	268,891	1,015,223	6,385,464
1,745,368	1,295,519	3,040,887	September	19,373	67,388	. . . .	35,550	122,311	3,163,198
. . . .	. . . .	. . . .	October	130,964	30,203	. . . .	440	161,607	161,607
4,710,900	4,093,589	8,804,489	1958 TOTALS	222,552	769,755	1,953	327,412	1,321,672	10,126,161

Note: Complete 1958 figures not available.

Pacific Northwest Albacore

YEAR	Solid	Chunks	Flakes & Grated	TOTAL
1939	.	. .		173,359
1940	...	...	...	207,723
1941	...	...	...	197,629
1942	...	...	...	314,353
1943	260,085	41,329	...	301,414
1944	604,574	242,022	...	846,596
1945	324,900	141,959	...	466,859
1946	136,127	56,110	...	192,237
1947	272,888	112,682	...	385,570
1948	293,547	123,809	...	417,356
1949	326,911	106,008		432,919

YEAR	Solid	Chunks	Flakes & Grated	TOTAL	VALUE
1950	502,778	198,236	...	701,014	$ ..
1951	292,973	96,263	...	389,236	
1952	391,242	197,684	...	588,926	
1953	412,819	181,254	...	594,073	.
1954	356,666	113,530	...	470,196	..
1955	438,945	39,583	105,412	583,940	7,837,294
1956	642,218	54,751	123,785	820,754	10,549,970
1957	561,291	67,510	140,042	768,843	10,187,730
1958	691,175	111,316	157,762	*957,253	13,281,037

NOTE:- Small quantities canned at Eureka, Calif., have been included in the Pacific Northwest. Grade segregation not available for all styles of pack, and pack valuation not available for years prior to 1955. All figures are on the basis of standard cases of 48 halves. Valuation for current year is a preliminary total and subject to correction. * Albacore production of Hawaii included in 1958 data.

U. S. Tuna Pack other than Pacific States

(Hawaii, Samoa, Puerto Rico, Atlantic and Gulf States)
In Standard Cases

YEAR	ALBACORE				LIGHTMEAT				TOTAL	YEAR
	Solid	Chunks	Flakes	Total	Solid	Chunks	Flakes	Total		
1955	**	**	**	**	276,829*	343,658*	222,225*	842,712*	842,712	1955
1956	273,262	28,682	19,527	321,471	142,885	348,032	144,035	634 952	956,423	1956
1957	438,035	70,433	44,109	552,577	38,190	693 262	***	731,452	1 284 029	1957

*Includes Albacore

**Included with Lightmeat

***Included with Chunks

was produced by a Japanese fleet, fishing in the vicinity of the New Hebrides, and delivering to a British-operated freezer in the port of Santo.

Fish frozen in this plant is marketed by an American concern, the third party in the international enterprise which developed this additional source of tuna.

While the New Hebrides operation was originally looked upon as a source of Yellowfin, it is believed to be producing a substantial quantity of Equatorial Albacore as well.

This tendency toward Albacore also is believed to be evident in the deliveries being made by the Japanese fleet serving the Van Camp operation at Samoa.

- Establishment of tuna transshipping stations for Japanese vessels fishing the Atlantic and Caribbean areas, while designed essentially to serve the operations on Puerto Rico, may also provide sources of supply for the Atlantic coast, Pacific Northwest and California plants seeking to round-out the raw material sources.

There has also been some revival of interest in the possibilities of shipping Australian Bluefin frozen to the Pacific Northwest and British Columbia canneries for canning.

These fish were found by the Jangaard Brothers of San Diego, test fishing under contract to the government of South Australia, to be extremely abundant, and available at comparatively low cost close to shore.

While the Australian Bluefin were found to produce a pack somewhat dark in color for the liking of the British market, some recent tests have indicated that it might prove highly acceptable in some areas which do not put such exaggerated emphasis on color as does the United Kingdom market.

Tuna Prices Per Ton Paid Fishermen

YEAR	Albacore	Yellowfin	Bluefin	Skipjack
1917	$30	$50	$45	$40
1918	125	90	80	40
1919	200	90	80	40
1920	300	90	80	40
1921	145	80	80	60
1922	250	100	80	60
1923	300	80	75	60
1924	360	80	80	60
1925	200	80	80	60
1926	175	110	110	75-80
1927	Nominal	110	90	75
1928	200 up	120	90	75
1929	300	120	110	70-80
1930	200	120	110	90
1931	200	120-100	90	90-80
1932	200	80	75	70
1933	200	100	90	80
1934	200	100	90	80
1935	125-160	100	90	80
1936	Nominal	105-110	95-90	85-90
1937	215	120	110	100
1938	215-130	120	110	100
1939	125	110	100	90
1940	140	110	110	100
1941	140	110-130	110-120	100-110
1942	300-400	190	180	170
1943	325	200	190	180
1944	325-390	200	190	180
1945	390	200	190	180
1946	390-440	200-280	190-270	180-260
1947	410-600	310-340	300	290-320
1948	550-740-425	340	330	320
1949	400-350	340-310	330-300	320-290
1950	400	310	300	290
1951	400-250-300	310	300	290
1952	350-400	320	310	280
1953	400	320	310	280
1954	400-410	350-330	340-320	320-290
1955	350-310-330	330-270	320-210	290-230
1956	375-300	270	280-260	230
1957	310-280-300	270-230-270*	260-200-260	230-190-230*
1958	425	275-283-263	260	235-252-223

NOTE:- Prices quoted are per ton of round fish in good condition landed at cannery dock. All fish rejected by inspectors, either as landed or after precooking, are deducted from the gross weight.

Figures given undertake to state the prevailing market level. Where a range in prices is shown it represents a definite change in market level in the course of the season, the movement being from the first to the second figures stated. Quotations for 1943 through 1945 are OPA ceiling prices for cannery fish, and represent the total amounts which may be paid the fishermen in cash or allowances, save for the cost of war-risk insurance. The lower figures in 1946 are ceiling prices and the higher represent levels attained after removal of OPA controls.

*Final prices quoted for Yellowfin and Skipjack were the minimum prices acceptable for opening bids on the tuna auction initiated at San Diego in 1957 by the American Tunaboat Association.

California Tuna Clipper Fleet—1958

Following list represents the California fleet of live-bait tuna fishing vessels—"clippers"—delivering to San Pedro or San Diego canneries at the end of 1958. It does not include American-built vessels delivering all or the major part of their catches in foreign ports, or those based in foreign countries and delivering to carriers for transport to United States ports. "Capacity" is the approximate number of tons of refrigerated tuna in a maximum load for the vessel.

Name of Boat	Builder	Length	Capacity	Managing Owner
Aggressor	Martinolich	125	320	Joseph Rogers
Agnes C.	Western	98	160	Van Camp Sea F'd Co.
Alphecca	National	128	240	M. Machado Medina
American Boy	Consolidated	124	310	Joaquim Canas
American Enterprise	Lynch	128	275	M. S. Rice
Antoinette B.	National	121	280	Edw. X. Madruga
Azoreana	Campbell	142	375	M. G. Rosa
Balboa			55	John Zolezzi
Belle of Portugal	Campbell	130	325	M. G. Rosa
Benita	Campbell	90	125	Mario Toso
Bernadette	Campbell	145	350	Frank Medina
Cabrillo	National	127	340	Joe Soares
Cal	Campbell	90	110	Geo. Campbell
Cape Beverly	Martinac	113	185	J. M. Martinac
Cape Falcon	Harbor	128	240	Louis Peterson
Carol S. Virginia	National	115	200	National Marine
Carol Virginia		127	345	Nat'l Marine Terminal
Charlene	Martinolich	115	215	Dr. O. H. Warner
City of San Francisco	Genoa	95	110	Campb'l Mch. Co., Inc.
Coimbra	Western	136	300	Van Camp Sea Food
Columbia	Martinac	107	210	Manuel Serpa
Commander	Birchfield	126	290	Al Davis
Commodore	Campbell	130	260	Louis Vattuone
Concho	National	127	340	Nat'l. Marine Terminal
Conte Bianco	National	127	300	Stefano Massa
Conte di Savoia	Consolidated	125	310	National Marine
Constitution	Campbell	150	390	J. S. Rogers
Courageous	United	131	325	Lewis Livesley
Crusader	Puget Sound	105	250	*J. G. Cardosa
Daiho II		80	55	*C. M. Johnson
Deolinda	San Diego	100	140	San Diego Marine
Dominator	National	127	340	George Soares
Ecuador	National	133	460	M. O. Medina
Electra	San Diego	57	50	*Dan Battaglia
Mimi Lou	Tacoma	91	130	John Zolezzi
Miss America	Hodgson	100	150	*Hodgson, G. H.
Missouri	National	127	340	National Marine
Monarch	Hodgson	80	100	Salvador Lucas
Mondego	Puget Sound	103	190	Manuel Almeida
Myrtle L		46	30	J. Dale Martin
Navigator	Campbell	145	370	Joe S. Rogers
Normandie	Campbell	160	445	M. O. Medina
North American				
Notre Dame	Lynch	96	160	John G. Cardosa
Oceana	Campbell	148	400	*Thos. Bagalini
Pacific Queen	Rask	79	80	Jack Carniglia
Paramount	Avondale	132	325	Joe Madruga
Picaroto	Campbell	130	325	Manuel G. Rosa
Portuguesa	Lynch	113	235	Manuel G. Rosa
Queen Mary	Campbell	140	400	Joseph Medina
Renown	Hodgson	126	250	Lewis Livesley
Ronnie S	Campbell	128	240	Tom Santos
St. Anthony		68	70	Frank Alito
St. Francis	Western		100	Western Boat Bldg. Co.
St. Mathews				
San Antonio III			50	Pete Di Maria
San Juan	National	127	340	National Marine
San Joaquin		128	280	Fernando Medina
Santa Margarita	Al Larson	105	180	*John G. Cardosa
Santa Rosa	Harbor	128	240	Anthony Bozanich
Saratoga	Tacoma	121	250	Manuel Luz
Sea Boy	Lake Union	124	215	Manuel A. G. Luis
Seafarer	Birchfield		250	Al Davis
Sea Lion	Hodgson	91	133	Manuel Calergio
Sea Preme	National	127	320	Nat'l. Marine Terminal
Shamrock	San Diego	105	175	Ernie Monteiro
Shasta	San Diego	96	115	Jack Canepa
South Coast	Western	115	195	So. Calif. Fishing Co.

Elsinore	National	127	340	National Marine
Endeavor	Campbell	143	400	Wade Ambrose
Equator	National	133	360	M. O. Medina
Evelyn R	Long Beach	126	240	M. M. Medina
Excalibur	Avondale	121	240	Ave Gonsalves
Far-Famed	Campbell	125	200	Maurice Bernandini
Favorite	Puget Sound	105	200	Antonio da Rosa
Frances Marie	Martinolich	103	165	Frank Perry
Gem of the Sea	Martinac	128	280	Manuel E. Simas
Golden Glow	Peterson	96	155	Frank Fernandes
Heroic	Lynch	116	200	M. O. Medina
High Seas	Hodgson	128	290	J. F. Reis
Historic	Martinac		240	M. O. Virissimo
Independence	National	127	340	Nat'l. Marine Terminal
Invader	Campbell	117	150	Sal. Navarra
Jeanne Lynn	Tacoma	122	250	G. W. Martin
Joan of Arc	United	131	300	Manuel Balclo
Jo Linda	Avondale	130	310	Luigi Guidi
Jo Maria	Hodgson	123	260	Mrs. J. Sciuto
Judy S	Harbor	124	230	Nat'l. Marine Terminal
Julia B	Lynch	96	160	John Ghio
Katie Lou	Lynch	124	225	Felix Budzilko
Kitty Hawk	United	131	290	N. C. Andrews
Liberty	Puget Sound	100	180	Eddie X. Madruga
Liberty Bell	Hodgson	112	215	F. H. Gonsalves Jr.
Lois Seaver		127	345	Nat'l Marine Terminal
Lone Wolf	Harbor	69	70	John Zolezzi
Lou Jean	Consolidated	106	210	Louis Guidi
Lucky Star	National	106	175	National Marine
Lusitania	Al Larson	98	160	Manuel G. Rosa
Marie Louise	San Diego	75	75	Steve Zolezzi
Mariner	Fulton	128	280	F. W. Szalinski
Mary Barbara	National	127	340	National Marine
Mary C. Canas	Puget Sound	100	140	Jack Canas
Mary Jean			75	John Zolezzi
Mary Lou	Lynch	118	210	Maurice Bernardini
Mary S.	Martinac	110	200	Lewis Livesley
Mauritania	Avondale	132	325	Lewis Livesley
Mayflower	Campbell	145	370	Van Camp Sea F'd Co.
May Queen	Puget Sound	121	275	Carl Medina
Mercator			55	H. Olsen
South Seas	Hodgson	95	165	Steve Stagnaro
Southern Queen		100	160	John Rippo
Southern Seas	San Diego	100	140	Lou Brito & Jim Potts
Southland	Martinac	100	160	California Marine
Star Crest	San Diego	110	200	George Soares
Star of the Sea	Campbell	115	190	Nat'l. Marine Terminal
Sun Europa	Martinolich	149	350	Sam Crivello
Sun Glow	Puget Sound	98	150	Anthony Madruga
Sun Hawk	Pacific Boat	93	130	George Alameda
Sun Ray	United	131	280	Steve Kral
Sun Venus	Martinolich	103	160	*Alfred Brum
Sun Victoria	Campbell	149	370	*Sun Pacific, Inc.
Supreme	Campbell	128	260	Manuel Correia
Trojan	No. American	55	30	Sam Meserve
United States	National	127	340	National Marine
United Victory	Hodgson	116	240	*Arthur DeFever
Valiant	Martinac	108	180	Calif. Marine
Venetian	Campbell	65	55	*Steve Stagnare
Victoria		140	380	The Ambrose Co.
Viking				Frank Brennan
Virginia R	Tacoma Boat	108	240	Joe C. Correira
West Coast	Lynch	96	180	John Ghio
West Point	Tacoma	112	250	Carl Hanken
Westport	National	127	340	National Marine
White Sea	Harbor	128	280	White Sea Corp.
Wiley V. A.	Guntert	112	215	The Ambrose Co.
Zarco		122	170	Zarco Fishing Co.

Tuna Clipper Fleet Explanatory Notes

NOTE—In the accompanying table of California tuna clippers, in some cases yards listed under "Builder" actually were the yards where the vessels were converted to tuna fishing, rather than the original builder. In the above table names of yards have been abbreviated as follows: **Avondale,** Avondale Marine Ways, New Orleans; **Bellingham,** Bellingham Iron Works, Bellingham, Wash.; **Birchfield,** Birchfield Boiler, Inc., Tacoma; **Campbell,** Campbell Machine Works, San Diego; **Chilman,** Chilman Shipyard, Hoquiam, Wash.; **Consolidated,** Consolidated Steel Corporation, Newport Beach; **Fulton,** Fulton Shipyard, Antioch, Calif.; **Genoa,** Genoa Boat Works, San Francisco; **Guntert,** Guntert & Zimmerman, Stockton, Calif.; **Harbor,** Harbor Boat & Yacht Co., San Diego; **Hodgson,** Hodgson-Greene-Haldeman, Long Beach; **Lake Union,** Lake Union Dry Dock Co., Seattle; **Al Larson,** Al Larson Boat Co., Terminal Island; **Long Beach,** Long Beach Marine Repair, Long Beach; **Lynch,** Llynch Shipbuilding Co., San Diego; **Marine,** Marine View Boat Building Co., Tacoma; **Martinac,** J. M. Martinac Shipbuilding Corporation; **Martinolich,** Martinolich Shipbuilding Co., San Diego; **National,** National Steel & Shipbuilding Co., San Diego; **Peterson,** Peterson Boat Building Co., Tacoma; **Puget Sound,** Puget Sound Boat Building Co., Tacoma; **Rask,** Peter Rask Boat Yard, San Diego; **San Diego,** San Diego Marine Construction Co., San Diego; **Schulte,** Schulte Boat Works, Gardiner, Ore.; **Soule,** Soule Steel Co., Stockton, Calif.; **Tacoma,** Tacoma Boatbuilding Co., Tacoma; **United,** United Concrete Pipe Co., Long Beach; **Western,** Western Boatbuilding Co., Tacoma. *Ownership as shown by latest edition of "Merchant Vessels

The Auction System in Tuna

By
WILBERT M. CHAPMAN

● EDITORIAL COMMENT — In this article Dr. Chapman reviews the cause and effect of one of the most noteworthy modern developments in American fishery economics, the application of the age-old method of auction to the selling of great quantities of fish for canning purposes. Auction marketing of the fishing fleet's landed catch is as old as industrial fishing, but generally is limited to fields of packing, manufacture and distribution other than canning.

The American Tunaboat Association took the lead in applying this method to the sale of its share of the United States' most valuable catch of fish. Here Dr. Chapman discusses the considerations which led to the step, and the apparent results after the first full year of auction application to large volume tuna selling.

● The money that builds tuna boats and gets the skilled crews to man them has to come out of the sea. If the spread between cost per ton of production and cost per ton of sale yields a fair profit new boats are built to replace the old which are lost, and young men of the high quality needed are attracted to the fishery; if the spread does not yield a fair profit new boats are not built and skilled personnel in the fleet leave it for shore-side jobs.

The first condition applied in this fleet after World War II and the profits then available were ploughed back into new fleet. The second condition began to apply in 1951 after the first heavy surge of tuna imports hit this market in the last half of 1950. By early 1952 the growth of the fleet had stopped and the shrinking process began which has drawn down the bait boat fleet from its 1951 high of 214 vessels to the fleet of 130 vessels with which we enter 1959.

In 1950, and for most of the history of the American tuna fishery before that, the individual vessels in the fleet were owned by individuals or groups of individuals, most of whom were fishermen. Cannery ownership of tuna clippers was nominal (5% of the fleet or less.) By trial and error in the early history of the fishery canners had found that owner-operated tuna clippers caught fish at a lower cost per ton than cannery-owned vessels.

The vessels at that stage were associated with individual cannrs by contract, or quite often just an understanding. The cannery for which the vessel fished was its home. It extended credits to the vessel, both short term credit for trip expenses and longer term credit for major repairs, insurance, etc. It took the fish the vessel produced and paid the going price. If a new vessel was needed it provided credit or arranged for its provision. The relationship between canner and boat owner was much more than a simple business relationship; if often resembled a family with deep-set loyalties on both sides that the minor bickerings did not much disturb. As a matter of fact in the post-war years of rapid growth in the tuna canning industry boat owners occasionally provided important credit sources for their canners, as well as vice-versa.

While this system had its critics it had the prime attribute that it had built the tuna industry of southern California from nothing into the most valuable food fishery of the United States in 30 years' time and kept it vigorous and prosperous during most of that time.

● This system was destroyed, and unconsciously, by forces entirely outside it in Japan. In the immediate post-war years Japan had substantially overbuilt its trawling fleet in the East China Sea until there was not enough fish to support it. Also, Japan was short of dollars. To kill both birds with one stone the Japanese Government in 1951 began a program of expanding its high seas tuna fishery. This was expanded in 1953 by a special purpose law to shift its fishermen away from the bottom fisheries of the East China Sea to the high seas tuna resources, the yield of which could be sold in the United States for dollars, and in Western Europe for hard currency.

The new law only lasted for two years but it exceeded all expectations. Japan in that period of time built a new tuna fleet larger than the American fleet on top of what they had and this led to extending their tuna fishery to all oceans of the world. Their tuna landings in 1952 were about 232,000 tons, and in 1957, about 408,000 tons — an increase in five years' time of more tuna than the entire American fishery has ever caught in a year. The weight of this new volume of tuna on the world market broke the tuna market everywhere —Europe and Japan itself, as well as in the United States.

Under this onslaught the American system of canner-boat owner relations was driven apart at the seams. It contained no regular way of establishing the ex-vessel price of tuna. In 1952 the American Tunaboat Association incorporated as a fishery cooperative so that it could legally negotiate contracts containing the price of fish and conditions of unloading for its members. As a cooperative it negotiated such contracts with each canner for which its members fished from 1953 to 1957.

In this period of time every practicable sort of contract that persons on

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CALIFORNIA IMPORTS OF FROZEN TUNA BY MONTHS

(TONS)

SPECIES	Nov '57	Dec '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	Oct.	TOTAL
Tuna and Tunalike:													
Albacore	1,564	1,465	1,725	1,843	1,083	1,141	1,645	933	2,529	291	545	571	15,335
Bluefin	..	..	..	...	...	440	...	..	207	39	22	. .	708
Skipjack	1,104	24	236	618	280	4,665	730	3,562	440	1,627	1,925	2,628	17,839
Yellowfin	1,451	2,251	3,076	2,004	3,637	11,327	3,897	5,003	6,428	4,915	4,187	3,772	51,948
Unclassified	615	177	60	..	47	15	..	2	...	..	...	..	916
TOTAL	4,734	3,917	5,097	4,465	5,047	17,588	6,272	9,500	9,604	6,872	6,679	6,971	86,746
1956 - 1957 All Tuna & Tunalike	3,354	2,281	5,440	4,997	5,450	17,151	2,863	4,284	7,489	2,976	4,832	2,657	63,774

either side of the table could think up was negotiated and worked under. None of them worked, because nobody on either side could estimate what the market value of tuna would be for even a few months ahead because they did not know what the Japanese price would be. Canners were prepared in January to sign a contract under which they could not perform in the late summer when the new flood of Japanese imports would fill the market at whatever price was necessary to move the product. This went on from year to year.

- The final crushing blow came in 1956 when the Japanese Cartel made a mistake in judging the Albacore market and had to dump 15,000 tons of Albacore on this market at a loss of more than $100 per ton.

Under the upset market conditions that then obtained, which were obviously going to continue into 1957 until the dumped Albacore was disposed of, no sort of contract which would be useful could be thought of. Accordingly the Association notified the customers it still had of its intention to negotiate no contracts upon the expiration of the contracts then in force —April 1, 1957.

The surplus Japanese Albacore got used up in the Lenten trade of 1957 and from April through June of that year Association fish sold well without contracts at the old price of $270 per ton for yellowfin and $230 for Skipjack which had obtained since the early fall of 1955. By the first of July, however, fish began to pile up unsold in abundance at prices which were lower in cost per case of raw material than the $270-$230 prices.

By September 1957 there was approximately 9,000 tons of fish at the dock, some of which had been there in the boats nearly two months. Canners said they were unlikely to begin buying again before mid-October. By that time there would be close to 20,000 tons at the dock.

- During the troubles of 1956 the Board of Directors of the American Tunaboat Association had established a committee to examine thoroughly into alternate ways of selling fish. A detailed study of ways used by other fishermen throughout the world to sell their catches was made. Eight or nine alternative ways of marketing catches were examined at length. The committee discarded them one by one and finally recommended to the board a free public auction, boat load by boat load, and a termination of all contractual relations with canner customers. This recommendation the board adopted.

However, tuna clippers cannot be operated without crews. The earnings of crew members in this, as in most other high seas fishing fleets, is on a share basis. Earnings are therefore the result of both volume of catch and price of sale, less trip expense. How could a crew man make a reasonable estimate of what his earnings might be if the price was not known before he sailed? How could he be sure he could not have earned higher wages ashore in an airplane plant and been

SAN DIEGO CANNED TUNA

Year	(Cases -- All Sizes)								
	Yellowfin	Bluefin	Skipjack	Albacore	Tonno	Tuna Flakes	Yellowtail	Bonito	TOTAL
1930	739,616	6,944	185,848	1,783	17,875	18,053	4,838	12,797	987,754
1931	431,229	.....	112,307	177	706	6,591	749	2,257	554,016
1932	403,050	177	203,381	.....	.....	4,774	668	10,213	622,263
1933	678,810	1	198,313	.....	.....	2,183	32,129	18,668	930,104
1934	780,066	6,683	195,798	.....	.....	8,100	6,100	17,309	1,014,056
1935	948,276	24,871	249,747	4,648	545	7,749	64,054	36,985	1,336,875
1936	1,074,811	22,390	295,330	35	740	14,967	95,059	36,743	1,540,075
1937	1,165,866	27,103	487,751	8,036	1,125	15,904	44,128	44,054	1,793,967
1938	1,010,814	49,840	221,917	24,355	.....	17,384	43,794	34,024	1,402,128
1939	1,348,565	27,020	257,528	46,372	7,318	31,136	12,875	19,588	1,750,402
1940	1,469,428	45,867	529,776	19,304	60,138	141,861	27,621	22,003	2,315,998
1941	1,016,759	32,369	323,466	10,145	308	130,004	103,066	41,265	1,657,382
1942	545,517	28,413	590,594	104,578	.....	111,096	20,965	14,173	1,415,336
1943	392,114	12,021	294,964	227,347	.....	381,967	5,488	6,810	1,320,711
1944	485,796	16,473	257,994	307,806	.....	530,368	3,237	4,284	1,605,958
1945	1,037,009	22,742	458,895	329,251	.....	96,162	14,074	18,450	1,976,583
1946	1,549,557	28,753	445,560	233,622	.....	268,767	28,965	34,797	2,590,021
1947	1,875,087	6,557	695,170	145,300	26,359	323,511	45,800	23,127	3,140,911
1948	2,364,819	1,991	729,505	462,255	.....	366,828	31,362	8,058	3,964,818
1949	2,059,468	2,889	904,793	535,013	4,038	420,491	22,695	2,189	3,951,576
1950	913,458	3,300	495,462	482,894	54,988	1,898,568	3,235	4,506	3,856,411
1951	*	2,424,215*	*	370,000	58,042	584,201	**	270**	3,437,428
1952	*	1,405,292*	*	534,574	44,576	485,423	**	3,115**	2,472,980
1953	*	1,674,428*	*	494,137	55,009	515,704***	52,042	17,824	2,809,144
1954	*	812,525*	*	249,972	64,155	2,147,546***	20,983	27,426	3,322,607
1955	*	498,611*	*	244,599	42,186	1,476,445#	1,756	462	2,264,059
1956	*	586,218*	*	234,984	60,745	2,179,516#	1,441	1,075	3,063,979
1957	*	519,059*	*	255,225	64,173	1,972,937#	3,102	1,262	2,815,758

*Yellowfin, Bluefin and Skipjack not given separately. ***Includes miscellaneous. **Yellowtail and Bonito not given separately.
#Includes chunks and miscellaneous.

home with his family every night instead of for a few days every three months?

On this rock the auction plan floundered in early 1957. The unions would not provide crews under it.

- By September of 1957, however, with the fish piling up at dockside and the fleet grinding to a halt with all the crew earnings frozen in the wells of clippers, the situation was different. The Board of Directors directed the General Manager to sell the fish in the bay for what it would bring and initiate a public auction of subsequent catches by member vessels at frequent intervals.

The price at once dropped from $270 per ton to $230 for Yellowfin tuna and from $230 per ton to $190 for Skipjack. At these prices the accumulated stock of tuna began to move into the can promptly. This experience proved one thing definitely to the fishermen which their customers had consistently denied. It proved that there was no surplus of American-produced tuna for this market and there never had been. It proved that if American produced tuna were priced competitively with Japanese tuna in this market it could be sold as rapidly as it was caught and landed.

The shock of the initial price drop was electric in the industry. If the price was going to remain at $230 and $190 a full two-thirds of the fleet simply had to stop sailing because the catch of tuna would not pay the out-of-pocket cost of catching. Also, crew members would be able to make better wages than this ashore and would not go to sea. If this condition was to continue the southern California canners would be immediately put at the mercy of the Japanese Tuna Cartel for its supply of raw material.

- Information available to the Association led it to believe these prices to be well below the true market value of the tuna and that the price would firm up toward a livable level for most boats when the accumulated surplus was used up. Accordingly negotiations were undertaken with the unions on this basis. It was agreed that to even out the economic impact of the original price drop to get the auction started, a pool would be formed from all moneys received over $230-$190 and shared back in the normal percentages of the union contract to all vessels and crew members at the end of the first round of trips (when each vessel had completed one trip under the auction system). This agreement was carried out to the satisfaction of all hands and then the pool system was ended, so that each vessel and each trip reverted to an individual economic enterprise as has been customary in the industry.

Negotiations were proceeding satisfactorily between the Association and the unions to get the vessels back out fishing under the auction system when some canners began interfering with the negotiations in demagogic manner. They were so frightened by their alarming views of what the auction system might do to their supply of fish that they had to get crews aboard their own vessels and to sea fishing no matter what the effect of their actions might be on the future of the industry. The consequence was their guarantee that they would pay *their*

SAN PEDRO CANNED TUNA BY GRADES

YEAR & TYPE	Solid	Standard	Chunks	Grated & Flakes	Dark & Light	Tonno	Misc.	TOTAL
1951								
Lightmeat	497,942	113,731	666,590	1,701,833	48,690	103,817	11,260	3,143,863
Whitemeat	264,789	72,667	99,723	141,941	610	418	229	580,377
Yellowtail & Bonito	....	22,926	....	66,153	....	....	......	89,079
TOTAL	762,731	209,324	766,313	1,909,927	49,300	104,235	11,489	3,813,319
1952								
Lightmeat	820,745	89,832	2,198,446	973,275	54,830	83,083	94,883	4,315,094
Whitemeat	505,833	12,114	302,238	178,827	6,276	1,738	24,375	1,031,401
Yellowtail & Bonito	....	53,475	7,606	132,457	....	....	....	193,538
TOTAL	1,326,578	155,421	2,508,290	1,284,559	61,106	84,821	119,258	5,540,033
1953								
Lightmeat	580,967	128,009	2,187,041	745,753	29,961	124,626	136,270	3,932,627
Whitemeat	699,469	18,379	326,908	217,422	10,546	164	40,211	1,313,099
Yellowtail & Bonito	....	10,915	16,865	75,941	....	....	....	103,721
TOTAL	1,280,436	157,303	2,530,814	1,039,116	40,507	124,790	176,481	5,349,447
1954								
Lightmeat	595,102	130,717	2,982,897	665,484	38,560	115,684	183,970	4,712,414
Whitemeat	691,162	8,648	272,537	203,845	7,687	327	22,458	1,206,664
Yellowtail & Bonito	....	8,456	812	17,858	....	....	....	27,126
TOTAL	1,286,264	147,821	3,256,246	887,187	46,247	116,011	206,428	5,946,204
1955								
Lightmeat	635,460	37,004	2,960,532	476,245	27,175	133,519	94,190	4,364,125
Whitemeat	872,403	31,411	233,586	232,775	5,084	....	36,618	1,411,877
Yellowtail & Bonito	....	272	....	2,229	....	....	....	2,501
TOTAL	1,507,863	68,687	3,194,118	711,249	32,259	133,519	130,808	5,778,503
1956								
Lightmeat	546,110	34,284	3,795,946	399,586	47,289	119,332	69,433	5,011,980
Whitemeat	607,003	26,656	287,068	117,444	4,257	25	15,340	1,057,793
Yellowtail & Bonito	....	....	....	3,978	....	....	....	3,978
TOTAL	1,153,113	60,940	4,083,014	521,008	51,546	119,357	84,773	6,073,751
1957								
Lightmeat	479,153	22,799	3,582,157	466,331	61,883	100,666	76,444	4,789,433
Whitemeat	793,641	36,731	536,927	186,358	9,959	1,878	22,688	1,588,182
Yellowtail & Bonito	....	39	....	3,885	......	....	.....	3,924
TOTAL	1,272,794	59,569	4,119,084	656,574	71,842	102,544	99,132	6,381,539

crews at the rate of $270-$230 no matter what the price of the catch was *for one trip*. This set the pattern of letters of guarantee which has plagued the auction from time to time during the year, but has not killed it.

- At any rate the auction got started in August of 1957 and by the end of December 1958, 122 auctions had been held at which about 83,000 tons of tuna had been sold. During the year 1958 the auction was subjected to every blow that could be expected and by some that were unexpected. Among these were:

1. Opposition representative of a segment of the tuna canning industry has fought the auction system steadily and vigorously and by every means available to it.
2. An extraordinary Bluefin tuna run came during the height of the late summer season when landings are normally heaviest for the year and when the fleet has come to expect lay-ups.
3. The adjournment of Congress without the enactment of tuna legislation was followed by an enormous upsurge in the export of frozen tuna to the United States from Japan, including transhipments on on a large scale from the Atlantic fishery.
4. A heavy catch of California sardines tied up capital of small canners particularly affecting their purchases of tuna.

Nevertheless from January 1 to December 15, 1958, the sale of fish on auction went forward smoothly and expeditiously. For considerable periods of time vessel loads were sold two or three days ahead of arrival in port so that unloading could proceed upon arrival. While unloading dragged a little from time to time the fleet as a whole had less interruptions in its operation than in any year since 1949. While the price fluctuated from time to time, the fluctuations were of a reasonable magnitude, and the average price per ton received by the vessels for the entire year was actually a few dollars per ton above that received during 1957, 1956 and late 1955.

Extraordinary heavy imports, plus vessel arrivals in Decmber, coupled with seasonally slack canned tuna sales and two long holidays, caused the auction prices to fall to an uncomfortable low level in late December and caused a small accumulation of unsold fish at year-end. By January 15, 1959, prices had begun firming up some, fish was moving on auction, and it was evident that by February the holiday congestion would have evaporated.

- While the auction system had come through its first full calendar year of operation with flying colors, it had brought in its train a number of major adjustments in the industry. Among these were:

1. The practical elimination of artificial tieups magnified the differences between top skippers and average skippers as well as between top management and average management in a sharp manner and this brought adjustments boat by boat through a large segment of the fleet.
2. Small canners who had not bought fish from American vessels in a regular manner for some time made purchases during the year in a gratifying manner. Tuna was sold to every canner in southern California during the year for the first time in a while and was sold additionally to canners in San Francisco and Astoria.
3. As the year wore on all the canners save one lost their fear of the possible effects of the auction on their

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TUNA

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Carnation Brand Fancy Albacore
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Priority Brand Fancy Albacore
Priority Brand Fancy Light Tuna
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Priority Brand Grated Light Tuna

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J. R. BARRY & CO., 388 Cannery Street,
Terminal Island, California

PLANT LOCATION:
338 Cannery Street, Terminal Island, California

supply of fish and seemed to gain a genuine appreciation of its benefits to them in having a pool of fish available out of which they could buy with as much ease as their competitors without boat investment.

4. The vessels had to acquire credit facilities other than from canners to handle trip expenses and to meet other normal credit needs. This took some doing but at year-end was in fair shape.
5. Independently owned vessels became truly independent from canners and could manage their own business affairs according to their own abilities. The strong survived and have benefited from their independence; the weak succumbed, a process which is not yet completed.
6. The difference between cannery owned boats and independently owned boats in the matter of speed of unloading substantially disappeared. As a matter of fact for most of the year the independent boats which sold their fish at auc-

SAN DIEGO CANNED TUNA BY GRADES

YEAR & TYPE	Solid	Standard	Chunks	Grated & Flakes	Dark & Light	Tonno	Misc.	TOTAL
1951								
Lightmeat	872,560	101,909	1,444,755	530,229	2,678	58,042	4,991	3,015,164
Whitemeat	180,887	88,887	100,926	39,119	.....	......	.....	409,819
Yellowtail & Bonito	....	270	....	12,175	.....	......	.....	12,445
TOTAL	1,053,447	191,066	1,545,681	581,523	2,678	58,042	4,991	3,437,428
1952								
Lightmeat	475,181	26,455	902,647	344,532	.....	36,868	1,009	1,786,692
Whitemeat	309,319	....	225,255	109,774	.....	7,708	.....	632,056
Yellowtail & Bonito	....	80	3,035	31,117	.....	......	.....	34,232
TOTAL	784,500	26,535	1,130,937	485,423	.....	44,576	1,009	2,472,980
1953								
Lightmeat	492,617	56,386	1,123,132	368,405	3,810	44,134	2,858	2,091,342
Whitemeat	351,945	....	142,192	141,440	557	10,875	.....	647,009
Yellowtail & Bonito	....	68	14,114	55,684	.....	......	.....	69,866
TOTAL	844,562	56,454	1,279,438	565,529	4,367	55,009	2,858	2,808,217
1954								
Lightmeat	763,880	48,645	1,614,929	384,897	4,206	64,155	.....	2,880,712
Whitemeat	249,972	....	84,809	58,563	.....	......	142	393,486
Yellowtail & Bonito	33	3,346	1,201	43,829	.....	......	.....	48,409
TOTAL	1,013,885	51,991	1,700,939	487,289	4,206	64,155	142	3,322,607
1955								
Lightmeat	463,761	34,850	1,144,899	266,162	.....	42,186	.....	1,951,858
Whitemeat	243,998	601	23,720	41,537	.....	......	.....	309,856
Yellowtail & Bonito	....	24	34	2,160	.....	......	.....	2,218
TOTAL	707,759	35,475	1,168,653	309,859	.....	42,186	.....	2,263,932
1956								
Lightmeat	588,264	44,877	1,773,473	335,296	.....	58,135	4,314	2,804,359
Whitemeat	271,163	283	59,769	48,285	.....	......	504	380,004
Yellowtail & Bonito	....	....	30	2,486	.....	......	.....	2,516
TOTAL	859,427	45,160	1,833,272	386,067	.....	58,135	4,818	3,186,879
1957								
Lightmeat	493,786	25,273	1,436,988	329,541	.....	63,912	3,308	2,352,808
Whitemeat	254,913	312	131,511	70,591	.....	261	998	458,586
Yellowtail & Bonito	....	452	482	3,430	.....	.....	....	4,364
TOTAL	748,699	26,037	1,568,981	403,562	.....	64,173	4,306	2,815,758

South Pacific Canning Company - The Halfhill Company

Long Beach, California

ROYAL PACIFIC
FANCY SOLID PACK
TUNA

TUNA, BONITO

MACKEREL, SARDINES

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Shipments of Tuna Received in California

(Pounds)

Year	Albacore	Yellowfin	Skipjack	Bluefin	Bigeye	Other	TOTAL
1944	2,335,547	72,[illegible]	8[illegible],862	...	...	..	3,508,268
1945	60,90[illegible]	1,317,[illegible]	74,489	...	...	...	1,452,[illegible]
1946	...	817,987	210,687	.	...	...	1,[illegible]28,674
1947	26[illegible],3[illegible]7	1,392,590	146,655	...	...	...	1,808,[illegible]42
1948	1,141,747	...	364	168,180	...	...	1,310,291
1949	254,[illegible]4	673,632	11,911	...	...	5,655	945,863
1950	4,37[illegible],42[illegible]	7,961,748	3,251,118	107,878	...	40,000	15,739,164
1951	17,[illegible]	13,120,72[illegible]	2,858,749	2,112	...	36,858	33,539,335
1952	22,[illegible],248	7,141,[illegible]	4,157,441	...	...	2,306	33,826,584
1953	46,186,816	8,458,606	8,347,736	62,447	20,000	...	63,075,605
1954	38,466,383	29,7[illegible]1,[illegible]8	15,[illegible],756	771,147	1,249,937	3,901	85,901,022
1955	44,844,[illegible]	40,526,143	18,687,354	343,346	512,534	...	104,914,052
1956	2[illegible],[illegible]22,[illegible]	54,604,513	16,165,120	162,875	668,082	...	91,923,[illegible]
1957	39,564,027	45,085,798	20,938,140	323,024	827,474	...	106,738,463

tion frequently got unloaded a little faster than the cannery-tied vessels and also frequently got a "hair" better price. This evened out the earning to crew on both types of boats and led to a healthy readjustment of top fishermen throughout the fleet.

Whereas the auction system had been adopted by the fleet in late 1957 under the duress and force of economic circumstances, and not by the genuine wish of a majority of the crew members or owners, it had worked so well for all hands in 1958 that it was evidently here to stay by the genuine demand of a big majority of crew members and owners.

- No one in the fleet expects the auction system single-handedly to protect the industry from the crushing weight of Japanese imports. It is looked upon only as a tool with which to handle those problems as effectively as is possible. If the Japanese desire to, and are able to, drive the San Diego auction price down they can cripple us further, but not wipe us out entirely. Accounts from Japan indicate a growing realization by Japanese tuna boat owners that it is to their economic advantage to keep the pressure on this market such that the price here will yield them a satisfactory price in their own markets. They have expressed the same worries about the effect of the burgeoning Atlantic fishery on this price structure as is felt by this industry and appear to be making moves in the direction of moderating that effect.

SAN PEDRO CANNED TUNA

(Cases)

YEAR	Yellowfin	Bluefin	Skipjack	Albacore	Tonno	Tuna Flakes	Yellowtail	Bonito	TOTAL
1930	262,278	302,660	82,282	143,748	57,110	11,508	16,505	56,544	932,6[illegible]
1931	182,115	46,462	166,091	144,796	35,514	12,850	1,292	35,997	625,1[illegible]7
1932	275,263	8,510	101,626	52,215	42,247	11,517	2,447	31,901	525,726
1933	258,982	7,580	74,728	49,391	41,200	10,907	1,389	17,892	462,[illegible]
1934	317,846	325,350	71,350	82,182	55,163	22,402	3,716	35,245	[illegible],254
1935	306,202	413,630	88,746	107,501	81,660	33,909	17,123	91,080	1,13[illegible],851
1936	343,234	311,987	184,930	53,849	57,797	9,906	17,069	68,335	1,[illegible]47,1[illegible]7
1937	41[illegible],611	188,432	276,165	53,123	136,612	34,534	3,352	85,518	1,224,347
1938	273,365	273,358	151,081	265,034	67,404	47,092	27,440	91,830	1,1[illegible],[illegible]04
1939	578,727	191,456	212,042	281,666	70,022	41,104	11,739	139,502	1,526,258
1940	536,391	267,343	306,447	122,484	124,094	85,459	40,861	65,364	1,548,443
1941	308,886	136,333	109,563	73,024	33,530	40,545	26,241	135,594	863,71[illegible]
1942	214,391	250,685	128,980	128,670	23,479	39,880	16,427	18,115	820,627
1943	[illegible]93,881	162,844	88,203	187,052	17,239	120,548	67,780	28,815	[illegible]76,[illegible]2
1944	341,687	357,531	105,863	125,632	15,365	234,639	16,611	4,206	1,201,[illegible]34
1945	460,982	275,116	89,279	148,286	16,198	452,292	3,262	31,366	1,476,781
1946	663,814	304,248	202,729	141,629	....	558,026	15,080	73,509	1,[illegible]
1947	765,426	342,309	209,281	104,726	7,403	417,644	87,934	220,606	2,155,[illegible]
1948	969,732	94,190	200,693	290,811	23,009	477,769	120,257	150,147	2,326,608
1949	614,847	38,142	157,373	289,063	78,821	1,330,358	31,072	18,123	2,557,7[illegible]
1950	742,815	14,786	266,809	586,683	202,368	2,456,705	10,838	3,757	4,284,761
1951	*	*	1,289,523*	437,408	104,235	1,959,227	**	22,926**	3,813,319
1952	*	*	3,203,906*	844,821	84,821	1,345,665	**	61,081**	5,540,[illegible]
1953	*	*	2,922,287*	1,044,756	120,625	1,043,893	51,092	52,629	5,235,282
1954	*	*	725,729*	699,810	116,011	4,377,438	9,949	17,177	5,946,114
1955	*	*	672,464*	903,814	160,694	4,039,030#	224	2,277	[illegible],778,593
1956	*	*	565,289*	613,312	122,074	4,717,583#	3,448	530	6,922,236
1957	*	*	501,952*	830,372	102,544	4,942,747#	1,811	2,113	6,381,539

*Yellowfin, Bluefin and Skipjack not given separately. #Includes Chunks and miscellaneous. **Yellowtail and Bonito not given separately.

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AMBAYS

1958 California Sardine Catch 500% of Previous Season

• With catch and pack approximately five times as great as in 1957, and by far the best in any year since 1951, the California sardine industry in 1958 took a long stride upward toward the heights it occupied so long as America's greatest fishery in point of tonnage.

The catch exceeded 100,000 tons, against 20,000 in 1957 and only 2,620 tons in 1953. In its heyday the fishery consistently produced 500,000 to 600,000 tons a year.

Canned pack was up to 2,256,000 cases, comparable with the average amount canned pre-war years, but much less than half the all-time high pack of 5,430,000 cases produced in 1950.

Future of California sardine production, and how the resource can best serve the state — providing always that its resurgence is sustained — are two of the intriguing problems facing that state's fishermen, businessmen, public and politicians.

• Sardines, after a partial absence lasting eight years, in 1958 suddenly came back with a bang.

The 1958 season began to look like those prosperous years prior to 1950, when a catch of half a million tons would have surprised nobody.

The season ended with a total catch of 102,641 tons total for California. The 1957 catch had been 20,445 tons, less than one-fifth of the thumping 1958 total.

The highest recent year's catch was 355,160 tons in 1950, so the sardine crop still has a long way to go before it equals the "good old days;" but the 1958 season was a welcome record-breaker.

Pack, 2,256,000 Cases

The total California pack, also was correspondingly up. The season ended with 2,256,000 cases, as against the 1957 total of 477,600.

Like the catch, the case pack had a long way to go before catching up with the 1950 total of 5,100,000, but it was a good start.

The low point in the sardine *catch*, by the way, was a measly 2,620 tons landed in California in 1953.

Warm Water Year

• Since early Spring of 1958, the signs had been telling scientists that a good sardine year could be expected in California, and strangely enough, one Terminal Island canner, talking off the cuff to a *Pacific Fisherman* reporter, said he had a strong hunch that the sardine fishery would be coming back last year.

Scientists pointed out that the water in the Pacific off the coast was two or three degrees Centigrade warmer than had been recorded for nearly 10 years. This was confidently expected to be favorable to good spawning and schooling of fish in the season.

There were also signs of a good survival of 1957 and 1958-class sardines. A good survival of one year class of sardines could be enough, it was said, to support a prosperous sardine industry for several years.

Fast Take-Off South

• The northern segment of the California sardine fishery began its season officially on August 1, but actual fishing was postponed until Aug. 11 because of pending negotiations on fishermen's prices and cannery workers' pay.

Even on the 11th, the season got off to a slow start, with 41 tons land-

1958 CALIFORNIA SARDINE PRODUCTION

Month	Tons Received	Cases 1-lb. Oval 4 doz.	Cases 1-lb. Tall 4 doz.	Cases 8-oz. Oblong 48	Cases 5 oz. All 100s	Cases Other Sizes	Total Cases Actual Count	Total Standard Cases 48 - 1 lb.	Month
August	4,639	74,191	24,216	2,253	---	50	100,710	99,906	August
September	34,509	328,808	310,041	34,961	123,147	14,821	811,778	780,542	September
October	37,131	314,105	363,647	39,910	94,022	41,079	852,763	825,835	October
November	17,165	145,782	161,506	13,989	60,970	19,224	401,471	387,353	November
December	7,401	118,400	17,800	600	33,500	1,250	171,550	172,300	December
1958 TOTAL	100,845	981,286	877,210	91,713	311,639	76,424	2,338,272	2,265,936	1958 TOTAL

ed. This daily figure gradually rose to highs of several hundred tons.

But in the South there was no such slow start. Fishing began promptly on the legal date, September 1, and two days later the first boats in brought in a day's total of 1,690 tons.

In the second week of fishing there was a drop in landings, but the third week saw the highest landings of the month, with 3,170 tons brought in on Sept. 15.

Size Picks Up

● Fish caught early in the season were small, and cannery workers had the usual trouble handling them on the lines. However, as the season progressed the size improved, and at the end of the season fish were of normal size.

The Upper California boom season, incidentally, was matched by an almost disastrous season off Lower California. Mexico has no legal closed season, but Ensenada canners had not seen sardines in any quantity from May to almost the end of October. After October fishing picked up, and at years end were about normal.

Mackerel were equally scarce off Lower California, and the Ensenada canners were operating only spasmodically through the summer.

This trend of events, of course, followed the scientists' observations that warmer water in the Pacific in 1958 had caused the fish to move northward in search of cooler ocean temperatures.

1958 Price Problems

● The season began with an ex-vessel price of $60 per ton in effect both at Monterey and Terminal Island. After a month's highly productive fishing, canners found themselves unable to sell the pack at prices based on $60 a ton, and the price generally dropped to $50 a ton.

Most of the fish caught during the season came from the Santa Cruz-Santa Rosa area, few sardines being found elsewhere. Much of the tonnage was landed at Port Hueneme and trucked to San Pedro, the skippers preferring to pay the trucking charge rather than take the time to sail the distance around Pt. Firmin and lose two or three days' fishing. One cannery in Oxnard, four miles from Hueneme, took up to around 200 tons daily.

The 1958 season was not marred by serious price disputes such as postponed the start of fishing in 1957 to October 1 in the South, so that the fishermen lost one-third of the season, and a skimpy season at that.

Sardines canned commercially in aluminum were introduced by Franco-

California Sardine Industry

	Catch, Tons	Oil, Gallons	Meal, Tons	Case Pack, 1-lb. Ovals or Equiv.
1943-44 SEASON				
San Francisco District	126,132	5,018,816	20,064	425,487
Monterey District	212,383	6,578,416	32,840	1,563,036
San Pedro - San Diego District	135,007	2,185,779	20,608	1,161,750
Season TOTALS	473,522	13,783,011	73,512	3,150,273
1944-45 SEASON				
San Francisco District	136,337	5,616,063	22,258	271,528
Monterey District	234,613	8,305,401	34,920	887,190
San Pedro - San Diego District	177,465	3,781,148	26,795	1,102,662
Season TOTALS	548,415	17,702,612	89,973	2,261,380
1945-46 SEASON				
San Francisco District	83,483	3,581,808	12,765	456,001
Monterey District	142,282	4,803,560	20,297	1,220,579
San Pedro - San Diego District	170,325	2,846,216	23,481	2,073,963
Season TOTALS	396,090	11,231,584	56,543	3,750,543
1946-47 SEASON				
San Francisco District	2,846	65,002	519	6,590
Monterey District	26,818	755,674	3,893	155,329
San Pedro - San Diego District	198,052	3,314,193	26,870	1,931,544
Season TOTALS	227,716	4,134,869	31,182	2,093,463
1947-48 SEASON				
San Francisco District	383	4,440	37	5,793
Monterey District	14,492	260,375	1,756	222,867
San Pedro - San Diego District	95,362	1,458,983	11,762	1,258,660
Season TOTALS	110,237	1,723,798	13,555	1,487,320
1948-49 SEASON				
San Francisco District	1,688	16,590	127	34,197
Monterey District	52,203	783,627	5,566	914,624
San Pedro - San Diego District	127,350	1,436,939	13,301	2,113,897
Season TOTALS	181,241	2,237,156	18,994	3,062,718
1949-50 SEASON				
San Francisco District	17,798	607,004	2,917	81,040
Monterey District	133,570	3,431,286	17,513	1,606,767
San Pedro - San Diego District	186,392	2,402,760	23,343	2,632,305
Season TOTALS	337,760	6,441,050	43,773	4,320,112
1950-51 SEASON				
San Francisco District	....	538,132	2,408	67,698
Monterey District	....	1,132,643	6,443	759,172
San Pedro - San Diego District	....	4,802,054	34,660	4,444,120
Season TOTALS	....	6,472,829	43,511	5,270,990
1951-52 SEASON				
San Francisco District	321	6,350	32	4,342
Monterey District	24,864	327,149	2,217	495,542
San Pedro - San Diego District	101,356	1,121,770	10,855	1,867,978
Season TOTALS	126,541	1,455,269	13,104	2,367,862
1952-53 SEASON				
San Francisco District	....	....	....	....
Monterey District	285	2,345	14	5,740
San Pedro - San Diego District	3,330	15,529	186	64,819
Season TOTALS	3,615	17,874	200	70,359
1953-54 SEASON				
San Francisco District	....	....	....	....
Monterey District	58	410	3	1,335
San Pedro - San Diego District	2,568	12,218	161	61,622
Season TOTALS	2,620	12,628	164	62,957
1954-55 SEASON				
San Francisco District	814	4,550	45	18,883
Monterey District	8,674	86,032	567	192,525
San Pedro - San Diego District	57,654	669,922	5,926	1,180,517
Season TOTALS	67,142	760,504	6,538	1,391,925
1955-56 SEASON				
San Francisco District	2,522	21,114	185	55,686
Monterey District	14,133	168,796	1,143	313,255
San Pedro - San Diego District	56,535	690,106	5,763	1,162,605
Season TOTALS	73,190	880,016	7,091	1,531,546
1956-57 SEASON				
San Francisco District	836	....	......	18,236
Monterey District	5,787	49,410	330	124,393
San Diego District	25,114	276,703	2,585	590,052
Season TOTALS	31,737	326,113	2,915	732,681
1957 SEASON*				
San Francisco District	877	2,115	24	22,030
Monterey District	8,281	33,813	383	185,593
San Diego District	11,332	44,087	935	271,660
Season TOTALS	20,490	80,015	1,342	479,283

*For 1957 and following years seasonal records are included in one calendar year, instead of in portions of two years as formerly recorded. The sardine season now closes statewide on the last day of December.

CALIFORNIA CANNED SARDINE PACK

(Cases)

YEAR	MONTEREY AND SAN FRANCISCO BAY DISTRICT							SAN PEDRO DISTRICT						SAN DIEGO DISTRICT TOTAL	GRAND TOTAL	YEAR
	1-lb Ovals	1-lb. Talls	½-lb. Cans Misc.	½ -lb Fillets	5-oz. Talls	Other Sizes	TOTAL	1-lb. Ovals	1-lb. Talls	½-lb. Cans Misc.	5-oz. Talls	Other Sizes	TOTAL			
1912	17,702	....	....	....	....	1,072	18,774	....	....	....	....	....	....	....	18,774	1912
1913	73,686	....	....	....	....	....	73,686	....	....	....	....	....	....	....	73,686	1913
1914	80,834	....	....	....	....	....	80,834	....	....	....	....	....	....	....	80,834	1914
1915	46,625	....	....	....	....	609	47,234	....	....	....	....	....	....	....	47,234	1915
1916	97,100	....	....	....	....	8,532	105,632	2,512	....	....	....	3,296	5,808	54,655	166,095	1916
1917	331,063	....	....	....	....	29,809	363,472	131,347	....	....	....	546,033	679,120	147,602	1,190,194	1917
1918	593,448	....	....	....	....	26,151	619,609	325,587	....	....	....	433,374	758,961	106,418	1,484,979	1918
1919	805,884	....	....	....	....	27,084	832,968	125,784	....	....	....	105,741	231,514	87,033	1,151,515	1919
1920	....	....	....	....	....	....	706,726	....	....	....	....	....	244,900	111,370	1,062,996	1920
1921	287,954	....	....	....	....	10,975	298,929	77,048	....	....	....	3,765	80,813	9,370	389,112	1921
1922	353,188	....	....	....	....	1,479	354,667	340,938	....	....	....	6,096	347,034	27,140	729,034	1922
1923	580,984	....	....	....	....	10,001	590,985	490,064	....	....	....	2,769	492,833	48,205	1,132,023	1923
1924	631,774	....	....	....	....	22,416	654,190	693,133	....	....	....	4,491	697,624	63,624	1,420,128	1924
1925	737,743	....	....	....	....	37,119	774,862	920,191	....	....	....	2,685	922,876	56,041	1,753,779	1925
1926	1,158,133	....	31,483	....	....	2,867	1,192,483	861,088	....	....	....	21,702	861,481	88,419	2,163,755	1926
1927	1,341,872	....	36,363	237	17,808	826	1,397,106	1,046,453	....	....	119,815	....	1,166,268	62,038	2,625,412	1927
1928	1,511,535	4,569	43,754	159	80,252	2,495	1,642,764	945,676	9,652	....	146,724	....	1,099,052	73,514	2,815,330	1928
1929	2,039,526	54,618	16,969	11	75,101	2,187	2,188,412	1,438,159	76,271	8,072	168,039	33,753	1,724,294	28,753	3,941,459	1929
1930	1,579,408	74,043	19,692	391	141,524	3,751	1,818,809	863,254	106,460	2,909	228,965	8,138	1,209,726	40,989	3,069,524	1930
1931	1,004,215	43,722	11,280	....	40,375	337	1,099,929	498,996	59,853	11,931	119,930	1,467	691,637	3,425	1,794,991	1931
1932	459,756	4,467	3,276	88	17,726	2,528	487,481	415,874	36,292	....	54,197	....	506,363	7,641	1,001,845	1932
1933	838,533	47,575	4,604	....	38,013	1,532	930,217	365,750	57,969	....	53,996	4,336	482,051	10,592	1,422,860	1933
1934	1,091,158	48,769	6,527	8,361	67,913	2,675	1,225,413	531,619	119,506	....	164,735	....	815,860	10,463	2,051,736	1934
1935	1,126,466	218,523	39,566	91,525	128,168	27,704	1,631,952	615,808	135,531	25,519	112,264	251	889,373	11,437	2,532,762	1935
1936	1,089,683	202,148	89,280	113,516	124,490	41,946	1,661,063	586,038	259,793	132,488	156,649	749	1,135,717	22,863	2,819,643	1936
1937	679,317	227,806	51,068	73,785	68,164	9,284	1,109,424	761,776	634,215	263,729	200,060	1,509	1,861,289	12,491	2,983,204	1937
1938	721,036	58,168	104,419	97,277	154,488	16,287	1,151,675	600,532	318,691	212,064	162,245	....	1,293,532	19,056	2,464,263	1938
1939	1,248,747	310,168	125,251	141,900	138,217	28,538	1,992,821	627,524	308,896	217,100	178,072	1,520	1,333,112	229	3,326,162	1939
1940	933,955	249,195	158,300	151,518	225,975	18,384	1,737,327	664,241	398,960	230,771	156,681	72	1,450,725	37	3,188,089	1940
1941	1,601,506	1,092,720	234,093	182,703	296,568	54,961	3,462,551	689,210	870,256	216,972	151,384	2,136	1,929,958	2,775	5,395,284	1941
1942	802,795	663,309	8,283	75,386	94,755	59,695	1,704,223	619,881	1,342,030	85,776	90,672	2,918	2,141,277	1,285	3,846,785	1942
1943	1,045,451	832,934	128,438	....	20,208	36,037	2,063,068	400,504	846,314	44,516	26,507	2,235	1,320,076	697	3,383,841	1943
1944	1,051,397	1,088,918	61,828	20,584	374	18,255	2,241,356	434,414	963,551	23,297	....	1,040	1,422,302	....	3,663,658	1944
1945	766,554	951,346	81,019	10,075	....	102,391	1,911,385	444,649	1,480,175	48,215	....	....	1,973,039	....	3,884,424	1945
1946	123,063	171,698	39,376	10,233	....	9,050	353,420	602,008	2,073,679	73,125	....	....	2,748,812	....	3,102,232	1946
1947	108,289	71,691	72,995	155,677	....	4,181	412,833	510,760	802,243	29,327	57,260	....	1,399,590	1,627	1,814,050	1947
1948	400,841	197,865	527,346	16,645	....	994	1,143,691	611,927	970,569	347,991	120,413	....	2,050,900	6,587	3,201,178	1948
1949	869,104	491,196	344,148	12,434	127,741	6,291	1,850,914	822,053	1,112,939	194,690	305,438	....	2,435,120	....	4,286,034	1949
1950	427,416	224,569	6,533	44,843	99,657	24,179	827,197	1,476,695	2,256,213	355,087	451,365	63,882	4,603,242	....	5,430,439	1950
1951	377,754	75,721	2,785	12,285	95,257	7,120	570,922	1,030,080	971,971	74,273	368,611	36,785	2,481,720	....	3,052,642	1951
1952	5,730	10	....	....	....	....	5,740	60,116	34,694	1,513	1,317	2,450	100,090	....	105,830	1952
1953	1,335	....	....	....	....	....	1,335	41,340	18,902	1,773	679	55	62,794	....	64,084	1953
1954	123,215	12,256	65	155	30,516	....	216,207	571,945	488,981	39,426	91,377	29,292	1,221,021	....	1,437,228	1954
1955	292,234	61,128	....	4	3,887	11,340	368,593	578,551	334,740	89,323	164,880	1,706	1,169,200	....	1,537,793	1955
1956	97,760	32,945	....	....	6,712	1,260	138,677	326,852	211,849	22,313	82,059	17,900	660,973	....	799,650	1956
1957	187,819	21,927	2,032	....	....	3,362	215,140	208,949	32,995	9,247	56,897	....	308,088	....	523,228	1957
1958	282,117	112,847	....	....	....	169,270	564,234	677,080	846,350	....	110,109	58,963	1,692,702	....	2,256,936	1958

NOTE:- Figures for 1958 are preliminary totals from official sources. Those for previous years have been corrected from statistics of the California Division of Fish and Game.

Full segregation of the various sizes is not available for years prior to 1926 and is estimated for 1958.

* Where sizes are not segregated, they are combined with 1-lb. Talls. Figures for years prior to 1950 are given in cases "as they run", without reduction to standard cases. The great majority of the production, however, consists of 48-lb. cases. Figures for "Other Sizes" in 1950 and after have been reduced to standard cases, equivalent to cases of 48 - 1-lb. ovals.

Italian Packing Co. of Terminal Island in 1958 when the firm launched on the market its new pack of boneless sardine fillets in smoked barbecue sauce.

From the viewpoint of the consumer, the pack was certainly attractive, a rectangular round-cornered can with a lithographed paper top label, and overwrapped in cellophane. The brand is *Sea Boy*, Franco-Italian's house label.

The new aluminum cans are light in weight, easy to handle, easy to open, non-corrosive, lighter in shipping weight.

The product inside is usable in salads, sandwiches, omelets and a thousand other ways. With the strong trend toward barbecued foods, this pack in a smoky, sharp barbecue sauce was designed to find favor with diners indoors and out.

In handling the new aluminum cans in the packing operation, Franco-Italian ran into some new problems, mostly caused by the lighter weight of the aluminum can. Gravity doesn't move the aluminum can along as fast as it does tin plate, and some of the can conveyors had to be regraded to provide a steeper path for cans to follow.

One advantage to aluminum is that it is quieter. The Franco-Italian plant, when running on the new barbecue pack, is strangely quiet to anybody used to the screaming rattle of tin plate, moving through steel conveyors.

Unions in Hassle

• The San Pedro purse seine fleet was kept in some excitement through most of 1958 by a dispute between two rival factions of the Seine and Line Fishermen's Union. At various times, members of each group were arrested in citizens' arrests by members of the opposition; groups of members were locked out of union meetings, both sides claiming the right of the matter; there were a couple of chair-swinging sessions when spirits became exalted during union meetings; and there was much litigation in the courts. An election was held, then the results disputed. The matter was not yet settled as 1959 opened.

In the midst of the Seine and Line Fishermen's Union troubles, the other union claiming members among the San Pedro fishermen, ILWU 32, petitioned for an election among the fishermen to decide which of the two unions should represent all the fishermen. The results were to confirm the status quo. The fishermen decided almost unanimously to stay in their own unions.

Uniform Sardine Season Sought

• As in past years, the sardine season in California began August 1 for Central California (Monterey and San Francisco) and September 1 for Southern California (San Pedro-Long Beach.) This gives the central fishermen a month's start on the southerners.

At a two-day session of the Fish and Game Committee of the California State Legislature held in San Pedro in December, testimony of many segments of the fishing industry sought a uniform season for the entire state.

Some spokesmen favored stretching the season over four months for the entire state. Others were content to keep a three-month season but the same for both central and southern districts.

Early in January Assemblyman Vincent Thomas of San Pedro introduced at Sacramento a bill for a uniform Sept. 1-December 31 season. Whether this bill passes or another, it was widely believed that all California sardine fishermen may be operating on the same open season in 1959.

• Central California's sardine fisher-

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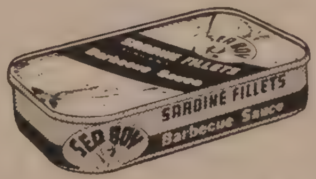

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SARDINES

Pacific Canned Pet Food

(In standard cases equivalent to 48 lbs. each)

Year	Alaska		California		Washington and Oregon		Pacific Totals	
	Cases	Value	Cases	Value	Cases	Value	Cases	Value
1949	75	$450	896,489	$4,222,300	*	*	896,564	$4,222,750
1950	--	---	1,388,110	7,471,751	*	*	1,388,110	7,471,751
1951	35	263	1,192,428	6,340,527	**	**	1,192,463	6,340,790
1952	80	600	1,328,513	6,753,039	**	**	1,328,593	6,753,639
1953	50	375	1,091,815	5,778,955	34,400	$133,300	1,126,265	5,912,630
1954	--	---	976,477	5,098,992	49,148	188,736	1,025,625	5,287,728
1955	--	---	1,949,375	10,062,298	61,846	242,628	2,011,221	10,304,926
1956	--	---	2,548,328	12,084,221	78,398	316,127	2,626,726	12,400,348
1957	--	---	2,632,149	11,778,910	88,409	389,792	2,720,558	12,168,702

* Not available. **Combined with California

men and packers in 1958 had the best season since the fall of 1951, handling above 22,000 tons, and packing better than 440,000 full cases.

Nevertheless, comparatively few of these fish were caught in Monterey Bay or near Monterey and none were caught off San Francisco. Out of this total catch processed in San Francisco and Monterey Bay, only about 20 or 25% had been caught in Monterey Bay or nearby. The rest of the fish was trucked in from southern California ports during the season.

For the first time in seven or eight years central California canneries had sardines soon after the opening day of the season, Aug. 1. Sixty tons of fish were trucked up from Avila Aug. 4 to the Santa Cruz Canning Co., Moss Landing.

The fish were caught by *New Roma*, Nino Davi, skipper. On Aug. 7, J-D Packing Co., San Francisco received via truck from Avila 40 tons from the *Diana*, Pete Maiorana, skipper. All fish were caught outside the breakwater at Morro Bay.

Three airplanes were spotting fish and reported that they saw fish within a five hour boat trip to Monterey. The entire Monterey fleet of 18 boats sailed Aug. 12.

Sardine cannery workers got an increase in pay—12c per hour more for men, straight across the board, and 4c per hour more for women.

- The ex-vessel price for sardines was set at $60 per ton, and $50 per ton for jack mackerel. Fishermen paid the cost of trucking to central California canneries. A year ago at that time sardine production out of Monterey did not start until Sept. 1, when the season opened in southern California. The ex-vessel price at that time was $57.50 per ton, less trucking charges to Monterey.

An addition to the sardine fleet in 1958 was the rehabilitated *Pearl Harbor*, formerly owned and operated by the late John Aiello. After a complete working over, *Pearl Harbor* set out with Sam Lonero as skipper. Sam is one of the most successful Monterey purse seine fishermen. He was formerly managing owner and skipper of the *Pacific Star*.

American Rose is another purse seiner joining the fleet with a new Enterprise diesel engine sold in Monterey by Hover Equipment Co., and

F. E. BOOTH CO., INC.

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California Mackerel Production by Species

Year	PACIFIC MACKEREL			Total Cases All Mackerel	JACK MACKEREL			Year
	Central California	Southern California	Total Pacific Mackerel		Total Jack Mackerel	Southern California	Central California	
1948	7,269	381,732	389,001	971,646	582,645	429,923	152,722	1948
1949	994	506,424	507,418	924,104	416,686	362,977	53,709	1949
1950	4,155	371,055	375,210	1,110,541	1,035,331	707,858*	327,473	1950
1951	5,448	365,956	371,404	1,040,300	668,896	650,274	18,622	1951
1952	2,509	216,011	218,520	1,573,745	1,355,225	1,335,416	19,809	1952
1953	.	71,222	71,222	598,305	527,083	516,839	10,244	1953
1954	14,495	213,452	227,947	383,500	155,553	80,057	75,496	1954
1955	12,012	194,520	206,532	564,672	358,140	272,658	85,482	1955
1956	102,687	370,071	472,758	1,131,462	658,704	528,317	130,387	1956
1957	117,579	365,500	483,079	1,360,688	877,609	648,182	229,427	1957
1958	*	*	146,846	361,553	214,707	*	*	1958

* Regional segregation not available.

her skipper is Dominic Grillo, son of the former skipper.

Packing sardines were: Enterprise Packers, San Xavier Fish Packing Co., California Packing Corp., Carmel Canning Co., and Hovden Food Products Corp., Monterey; Santa Cruz Canning Co., Moss Landing, and J-D Packing Co., San Francisco.

Visions of the "good old days" of a dozen years previously danced through the minds of central California's sardine industry — fishermen, boat owners, suppliers, canners and brokers—when with the end of the August dark some 1,000 tons of sardines had actually been landed by boat at Monterey Bay area canneries.

These were the largest landings of fish to be caught in the immediate vicinity of Monterey in many years. Canners were packing approximately 20 cases to the ton. In 1957 to Sept. 3 only 568 tons of sardines had been processed at Monterey plants and all those fish had been trucked in.

● According to Richard S. Croker, marine resources chief, California Department of Fish & Game, the 1958 sardine catch consisted of small fish, primarily of sizes which were not acceptable to the canneries in the heyday of the fishery. He said that 1958 sardines had been averaging a little over eight inches, mostly year-old fish.

A normal fish population includes many age groups so that one or two poor spawning years would not greatly harm the fishery. Now, however, Mr. Croker said, the sardines need a chance to rebuild their numbers in central and northern California waters without being exploited the moment they show signs of revival.

There was some concern, he said among informed fishermen and canners that by heavily harvesting the year-old sardines we may be killing the goose before it has a chance to lay the golden egg.

As the central California sardine season advanced early hopes that Monterey Bay would yield enough fish to herald a return to the days before the debacle of 1946, seemed dimmed, for most of the fish being brought to San Francisco and Monterey Bay canneries were being trucked in from southern California ports.

As of Oct. 7 some 14,179 tons of fish had been processed at San Francisco and Monterey Bay plants and it was estimated that only a relatively small portion of these fish had been caught in the Bay.

Mr. Croker pointed out that during August, first month of the open season north of Pt. Arguello, Monterey Bay produced only 500 tons of sardines—better than the almost zero mark of the last decade but a long way from the 37,000 tons in August, 1945, the last good year of the sardine fishery.

During the September dark, Mr. Croker said, Monterey Bay itself had yielded little or no tonnage, and the processing plants in the area had to depend on the 200-400 tons per day trucked in from southern points. By contrast, in 1945 the September tonnage from Monterey waters alone reached a peak of 49,000 tons.

● *New Roma,* skippered by Nino Davi, and fishing for Santa Cruz Canning Co., Moss Landing was high boat for the Monterey fleet. It was estimated that she caught around 3500 tons during the season.

Coincidental with the reduction in the price of fish to San Pedro fishermen in October, Monterey and San Francisco processors were paying the same per ton—$50. At the start of the season the price was $60.

The total catch of sardines fell off drastically in November due to rough weather, and reported lack of interest of canners in buying fish.

● Most canners during the season limited their boats to 35 - 50 tons of fish per day. This was said to be due to (a) lack of experienced cannery workers who have drifted away during poor times, (b) the poor export market for canned sardines, and (c) plant obsolescence—some canneries having sold off part of their machinery.

By Dec. 3 the 1958 central Califor-

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1958 CALIFORNIA ANCHOVY PACK

MONTH	Tons Delivered	1-lb. Oval	8-oz. Buffet	8-oz. Oblong	5-oz. Round 100s	Total	MONTH
January	825	---	---	1,451	13,734	15,185	January
February	413	---	---	891	7,279	8,170	February
March	204	110	---	---	--	110	March
April	133	30	---	---	--	30	April
May	162	---	---	---	--	--	May
June	531	---	---	---	7,810	7,810	June
July	538	---	405	6,812	4,410	11,627	July
August	230	---	400	---	--	400	August
September	125	---	---	31	--	31	September
October	300	---	---	---	--	--	October
November	220	---	---	145	--	145	November
December	200	---	---	520	1,810	2,330	December
TOTAL	3,881	140	805	9,850	35,043	45,838	TOTAL

nia pack of sardines was estimated to be 439,980 cases which compares with 207,623 cases for the 1957 season, and 1,676,580 cases for the last big season, 1945-46.

● Observers along California street said that the sardine market during most of 1958 was confused. Toward the end of the year sardines were selling $8.00 for ovals in tomato sauce, and $6.00 for talls, natural. The season had opened with quotations of $9.00 - $9.25 for ovals, and talls $7.00 -$7.25. Part of the decline in price was due to the reduction in the price paid to fishermen as noted above. Part of the drop was said to be due to a revision of canner's costs and overhead due to the comparatively large production.

The export market was characterized by observers as: "lack lustre - mediocre - little interest." This was attributed to competition from South African and Japanese sardines, and the comparatively high price of California canned fish.

As the year neared its close central California canners appeared to be less anxious to sell as fish were scarcer, and it was thought that the market would strengthen.

● As 1958 opened there was little carry-over of canned sardines from the 1957 season, and what there was was in second hands and was selling for as high as $11 per case for ovals, and very few talls were available, and what there was was selling for around $7.25.

By June, the carry-over was cleaned out. Market action was reported to be good at these high prices, and weakness in the market didn't appear until it was apparent that early 1958 catches were going to be bigger than in many years previously.

One Monterey canner told *Pacific Fisherman* that due to the high cost of fish and cannery labor, it cost about $8.00 to produce a case of ovals, while the export market was down to around $6.00. He said that the feeling along Cannery Row was that the price of fish should be about $40 per ton to enable canners to compete with Japanese and South African canners in export markets. This canner also added that he thought U. S. canners will have to put up a better pack of fish and promote their fish in the domestic market.

● A number of central California canneries made improvements to their plants during the year or were planning improvements. Sebastian "Buster" Sollecito told *Pacific Fisherman* that he was going to spend $50,000 in 1959 on his Enterprise Packers plant, Monterey. He is adding a 5-oz. line for anchovies, a fourth K&S tall can filling machine, and a fourth Continental Can Co. closing machine. Mr. Sollecito said that he planned other improvements that had been postponed from past, poor years.

At Carmel Canning Co., Sal Ferrante said that he has changed all the oval pre-cookers to modern continuous type cookers.

Joe Olivieri, president, Santa Cruz Canning Co., Moss Landing, stated that he was putting in a stickwater plant, with most of the equipment coming from the old Western Condensing plant in Monterey. Mr. Olivieri said that it will be a two stage evaporator system and that Alva Gray, superintendent of Santa Cruz Canning Co. would do the installation.

James Davi, owner, J-D Packing Co., San Francisco, made a number of improvements in his plant. He recently added a DeLaval SVK5 separator and a 40" Fletcher basket machine.

Three top-level promotions in the California Packing Corp. marketing organization were announced by President Roy G. Lucks in July.

Oliver E. Seegelken was elected vice-president—marketing, succeeding Irving H. Granicher who retired July 1.

Ross B. Yerby Jr. was named as general sales director and was also elected to Calpak's executive committee. James H. Allen was appointed to succeed Mr. Yerby as director of merchandising.

A. L. Desmond, vice-president and general sales manager, F. E. Booth Co., Inc., San Francisco, was elected a director of the National Canners Association. He will serve for three years.

Clark Collins was elected vice-president, Carmel Canning Co., with headquarters in San Francisco.

Death took its toll during the year among leaders in the sardine industry. John R. Grigg, credited with being the first man to get a permit from the California Fish & Game Commission for the straight reduction of sardines for fish meal and oil in the San Francisco Bay area, and thus the father of a once thriving industry, died at his home in Orinda. He was 70.

Horace Lucido, 45, skipper of the Monterey purse seiner, *Mary Ann*, died on board his boat from a heart attack off Port Hueneme.

Nino G. Crivello, 67, well known Monterey fisherman, associated with the AFL Seine & Line Fishermen's Union there for a number of years, and a member of the executive board passed away. He was also a boat owner at one time.

James J. Funsten, well known factor in the Pacific Coast canned seafood industry died during the summer in San Francisco.

Mr. Funsten started in the fish canning business in Monterey in 1922 with the late E. B. Gross, when they formed Funsten & Gross, Inc. This firm was dissolved in 1925. Mr. Funsten then joined with Frank Raiter, and Louis Oleari in forming the San Xavier Fish Packing Co., Monterey. He headed Funsten Co. which was the sales representative for the products of San Xavier Fish Packing Co., and other canneries in which he was interested including Pacific Marine Products Co., Astoria, Ore.

● All during 1958 there was more talk in California about the possible return of the sardine than in many a long year. There were two reasons, the progress report of the California

1958 California Mackerel Pack

PACIFIC MACKEREL				MONTH	JACK MACKEREL				All Mackerel Cases
Tons Delivered	Cases 1-lb. Cans	Cases Other Sizes	Total Cases		Tons Delivered	Cases 1-lb. Cans	Cases Other Sizes	Total Cases	
1,785	21,054	--	21,054	January	2,001	44,797	---	44,797	65,851
378	5,962	---	5,962	February	17	97	---	97	6,059
874	13,158	---	13,158	March	713	6,634	2,118	8,752	21,910
673	8,177	---	8,177	April	138	1,680	---	1,680	9,857
1,023	14,034	---	14,034	May	84	218	---	218	14,252
556	8,384	---	8,384	June	309	6,873	---	6,873	15,257
525	6,213	---	6,213	July	72	689	---	689	6,902
678	10,541	120	10,661	August	848	19,329	276	19,605	30,266
260	4,223	---	4,223	September	1,277	25,573	---	25,573	29,796
1,108	14,182	---	14,182	October	4,244	86,568	156	86,724	109,906
1,827	30,416	---	30,416	November	824	17,190	---	17,190	47,606
*	10,382	---	10,382	December	*	2,509	---	2,509	12,891
9,682	146,726	120	146,846	TOTALS	10,527	212,157	2,550	214,707	361,553

* Not available.

Cooperative Oceanic Fisheries Investigations, and the actual better catch.

The progress report released early in the year, said: "There have been more authentic reports of sightings of schools of young fish and survival of the 1957 class of sardines off southern California has undoubtedly been better than in recent years."

"Sardine spawning off northern Baja California and southern California during 1957 was also unique. On the usual offshore grounds, spawning was limited and discontinuous. Most of the spawning took place in a coast band from Punta Baja to San Pedro. For the first time in several years, some sardine spawning occurred north of Pt. Conception, reaching at least as far as Monterey Bay.

The 1957 class of sardines soon made itself evident in the live bait fishery. Preliminary figures indicate these 'firecrackers' will account for at least 6% of the live bait catch, as against 0.3% in the best previous years since 1949.

"Survival of the 1957 class of sardines off southern California has undoubtedly been better than in recent years. It is possible that the 1957 class will prove to be large, but judgment should be reserved, since these juveniles may have been over-available during the year because of their inshore origin, and been over sampled."

An interesting hypothesis is advanced in the report, accounting for the collapse of the sardine resource.

"Descriptive studies have progressed to the stage where it is now possible to suggest a working hypothesis that appears to be in accord with what is known of the biology of the sardine and the history of the fishery.

"1. Sardines produced off southern California migrate as far north as the Pacific Northwest and support the fishery in that region, as well as the winter fishery at San Francisco, Monterey and San Pedro.

"2. Sardines produced off central Baja California migrate as far north as central California and enter into the fall fishery at San Francisco, Monterey, and San Pedro.

"3. Lack of spawning success on the southern California spawning grounds since 1943 could account for the observed changes in the fishery.

"4. This lack of spawning success is attributed to lower (suboptimal) spring temperatures on the southern California spawning grounds.

"It is interesting to remark on the possibility of a larger than usual year-class being produced in 1957, a year in which spring temperatures approached pre-1943 conditions."

"Wet Fish" Suffer Reaction As Sardines Stage Advance

- While California sardines in 1958 were rocketing to 100,000 tons, 500% above the previous year, mackerel and anchovy fishing in that state drifted to lower levels.

These varieties suffered in part from the attention given to sardines in their greater abundance. The fishermen could concentrate once more upon sardines in abundance, and thus neglected the lesser varieties of "wet fish" for the species with the larger tonnage potential.

- Anchovies, with only 45,838 cases packed, as compared with over 400,000 cases in 1957 and approximately 700,000 cases in 1956, were a slight factor in California operations.

- Mackerel's steady march, which saw 1,340,000 cases canned in 1957, suffered a sharp setback in 1958, with a pack down to 361,000 cases, most of it Jack.

Nor can the decline wholly be credited to diversion of fishing interest to sardines. Mackerel showed definite signs of a low level of relative abundance.

Anchovy and Mackerel Down at Monterey

- Some 5,350-lbs. of anchovies, or a little over a ton and a half, was the total catch in central California for the first 10 months of 1958.

This compares with 748 tons landed during 1957.

The canneries operating on anchovies during 1958 found the fish too small for canning, generally speaking, and the 1958 pack was some 7,648 cases, as compared to 24,437 cases in 1957.

The central California mackerel fishery has been poor since Oct., 1957. For the first 10 months of 1958 canneries in the area received 1,496 tons of jack mackerel and barely over 11 tons of Pacific mackerel. This compares with 1,502-lbs. of Pacific mackerel in 1958, and 1,161 tons of jack mackerel in 1957.

The case pack of Pacific mackerel for 1958 in central California was 3,140, and for jack mackerel 76,277, as compared to a case pack of Pacific mackerel in 1957 of 117,579 cases and jack, 229,427 cases.

As in the case with sardines a great portion of the mackerel packed in central California was trucked in from southern California ports.

The canned mackerel market was strong in San Francisco all during 1958, observers stated, largely on account of the fact that it was unavailable.

The prevailing price was $7.00 per case for jack, and $7.50 per case for Pacific.

Japan's Fisheries

in 1958

Attain New Peaks in Catch and Markets

By
KENJI SAKAI

• Japan's fish catch of 1958 is believed to have been the largest in the history of that country, already firmly entrenched as the foremost fishing nation in the world.

The year was marked by the spring's trying conference with the Soviet Union over Asian fishery operations;

Then the Japanese industry's voluntary reduction of fishing pressure in areas where substantial quantities of Red Salmon of North American origin are found intermingled with stocks of Asian origin;

And finally by the windfall which resulted from great Britain's release of canned salmon from exchange permit restrictions, and the immediate purchase of Japan's large canned salmon inventory by the United Kingdom's free market.

• Japan's nationals glowed with pride a year ago when it was found that the 1957 catch of 5,398,578 metric tons of fish had established an all-time all-world record, advancing 13% over 1956.

Now, early in 1959, it appears from preliminary statements by the Statistical and Survey Division of the Ministry of Agriculture and Forestry that the catch for 1958 would again top the record. Last available data showed tonnage for Japanese operations throughout the world running 3% above the catch volume of the equivalent period of the year before.

These data cover the catches of Japanese vessels and Japanese nation-

1958 Japanese Canned Salmon Pack

(Unit, full case of 48 lbs. Actually, however, part of 1/2-lb. flat cans were packed in cases of 4 doz. cans, all 1/4-lb. flat cans in cases of 8 doz. cans and all 1-lb flat cans in cases of 2 doz. cans. As for 1/2-lb. flat can line, U.S. standard height was universally employed in the can making and accordingly in the packing of this year for the first time in history.)

Packer	Can Type	Red	Pink	Chum	Silver	King	Tidbit	TOTAL
Factoryship	1/2-lb. Flat (8 doz.)	548,321.5	230,700	279,755	122,263	1,661	38,593.5	1,221,294
	1/4-lb. Flat (16 doz.)	48,441.5	23,652	6,837	10,913.5	---	4,021	93,865
	1-lb. Tall (4 doz.)	8,940	325,477.5	63,613.5	19,622	---	--	417,653
	4-lb. (1 doz.)	---	5,564	153.5	---	---	--	5,717.5
	Total FACTORYSHIP	605,703	585,393.5	350,359	152,798.5	1,661	42,614.5	1,738,529.5
Land	1/2-lb. Flat (8 doz.)	353	182,076.5	5,140	1,472	27.5	9,986.5	199,055.5
	1/4-lb. Flat (16 doz.)	992.5	12,853	---	45.5	8	6	13,905
	1-lb. Tall (4 doz.)	---	126,466	1,979	269	---	--	128,714
	1-lb. Flat (4 doz.)	---	5,023	---	---	---	--	5,023
	Total LAND	1,345.5	326,418.5	7,119	1,786.5	35.5	9,992.5	346,697.5
	GRAND TOTAL	607,048.5	911,812	357,478	154,585	1,696.5	52,607	2,085,227

NOTE: Source, Japan Export Canned Salmon Manufacturers Association whose members are: Nichiro Gyogyo K.K., Nippon Suisan K.K., Taiyo Gyogyo K.K., Hokkaido Gyogyo Kosha, Kyokuyo Hogei K.K., Hakodate Kokai Gyogyo K.K., Hoko Suisan K.K. and Hokoku Suisan K.K. for factoryship pack and Japan Export Land-pack Canned Salmon Manufacturers Association for land pack. Data obtained about December 1, 1958 when operation was practically completed. The factoryship pack contains a small quantity processed at land equipment with fish that had been frozen on factoryship on high seas and transported homeward. There were 21 firms in Hokkaido and 13 firms in Honshu who contributed to the land pack for this year.

Japanese High Seas Salmon Catch

(By area, in numbers of vessels, numbers of fish and percentage of catch)

YEAR	Operation Area	Mother-ship	Catcher* Boats	RED	PINK	CHUM	SILVER	KING	TOTAL	AVERAGE Catch per Catcher Boat
1952	Aleutian	3	57	744,929	703,402	644,453	24,446	1,379	2,118,609	37,168
1953	Aleutian	3	105	1,579,850	3,065,336	2,707,134	339,603	8,253	7,700,176	73,350
1954	Aleutian	7	205	3,816,301	5,804,010	9,403,818	1,398,258	74,224	20,496,611	99,983
1955	Aleutian	12	347	12,163,948 (24.1%)	16,507,827 (32.7%)	18,573,457 (36.8%)	3,183,813 (6.3%)	74,084 (0.1%)	50,503,129 (100%)	145,542
	Okhotsk	2	60	329,883 (2.4%)	9,408,875 (69.5%)	3,404,134 (25.2%)	392,096 (2.9%)	2,398 (0.0%)	13,537,396 (100%)	225,623
	Total	14	407	12,493,831	25,916,702	21,977,591	3,575,909	76,482	64,040,515	157.347
1956	Aleutian	14	447	9,633,546 (22.6%)	12,006,578 (28.1%)	17,166,916 (40.2%)	3,757,456 (8.8%)	136,520 (0.3%)	42,701,016 (100%)	95,528
	Okhotsk	2	59	656,404 (7.0%)	5,366,361 (57.3%)	3,223,943 (34.4%)	117,332 (1 3%)	994 (0.0%)	9,365,034 (100%)	158,729
	Total	16	506	10,289,950	17,372,939	20,390,859	3,874,788	137,514	52,066,050	102,897
1957	Aleutian	14	405	19,822,540	21,045,585	9,246,132	339,623	31,103	50,484,983	124,654
	Okhotsk	2	56	274,055	6,834,800	2,661,826	102,107	589	9,873,377	176,310
	Total	16	461	20,096,595	27,880,385	11,907,958	441,730	31,672	60,358,360	130,929

				All species, in metric tons		In metric tons Average per boat
				CATCH QUOTA	TOTAL CATCH	
1958	Aleutian	15	432	85,169	85.118	197.0
	Okhotsk	1	28	6,498	6,498	232.1
	Total	16	460	91,667	91,616	199.2

*Includes a small number of "investigation ships" each year up to 1956. These tables do not include high seas salmon catch by Japan home-based gillnet and longline vessels. Of a total catch quota of 110,000 metric tons agreed upon for operation in 1958 within the Soviet-Japanese fisheries treaty-zone, a quota of 91,667 metric tons was allocated to mothership-system gillnet operation and 18,333 metric tons to home-based gillnet vessels. As yet no breakdown by species is available for catch of 1958. Besides the abovementioned, a number of smaller gillnet-boats fished Pink salmon in Japan Sea.

als wherever they may be, including some tonnage taken in the Indian and Atlantic oceans and landed for sale in other countries.

- Skipjack and Bigeye tuna, anchovy and mackerel all appeared to be certain of large increase, while herring, pilchard, Albacore, Atka mackerel and squid showed decrease. In some of these species listed the decline may prove a continuing tendency.

East Bering Sea Trawling by Japanese

Year	Motherships	Trawlers	Bottom Fish Catch in Tons	Fishmeal in Tons
1955	2	9	11,107	....
1956	4	6	26,818	....
1957	4	12	26,833	....
1958	2	9	18,146	....
	1	20	28,406	4,670

The Fisheries Branch of the Statistics and Survey Division, in publishing statistics of these 1958 catches, gave evidence of concern over the condition of some of the fish resources which recently have been subjected to increasing exploitation. This anxiety is in direct contrast to the reaction of the Japanese general public, which appears intoxicated by the ever-increasing tonnage of fish which their fishermen have been able to win from the sea.

Perhaps as result of official concern over the condition of some of the fish stocks, and in an effort to improve adequacy of the landing statistics kept by ports and prefectures, the technical authorities in 1959 are trying to determine more exactly just what percentage of a catch of fish, notably among the tunas, has come from what area of what ocean.

Salmon

- Japan's salmon fisheries, which are closely concerned with interwoven international interests because of the varied origins of the resource between two continents, developed two sweeping counter currents in 1958, following a series of significant events.

In the first place, Japanese newspapers appear to have convinced the public that no harm has been done the Alaska or Siberian salmon resources by Japanese high seas fishing operations. Again, the public has been encouraged by the so-called "victory" of Japan in the 1958 Tokyo conference of the International North Pacific Fisheries Commission; and thus seems to believe that, with the British market now free of any restrictions, the Japanese should catch as many salmon as possible.

Secondly, there is a reverse line running through a significant event, and pointing to practical conservation in a way not previously evident in Japanese fishing history. In this event operators of the mothership-system salmon fisheries of Japan responded to a request made by a group of Western Alaska salmon packers who visited Japan in April, 1958, seeking a means by which Red Sockeye salmon of Alaska origin could be relieved of a measure of exploitation on the high seas. They came declaring that the Alaska-born resource would be seriously affected if Japanese exploitation of Red salmon west of the Abstention Line continued at the intensity registered in 1956 and 1957.

The Japanese operators responded to the request of the Americans and cooperated by adjusting their fleet operations in 1958 to bear less heavily on the mingled stocks in which the Alaskan-origin Reds constituted a significant part.

It has become apparent to informed individuals that there are in Japanese intellectual circles at least a few scientists who are really concerned over the future of the salmon resource generally, and who admit that the sound-

Japanese Canned Salmon Pack

(Unit: Full case of 48 lbs. net)

Year	Red	Pink	Chum	Silver	King	Tidbit	TOTAL
1951		.	.	..	...	..	195,776
1952				.	..	..	97,700
1953	...	...	...	...	...	..	208,689
1954	186,146	174,069	80,468	65,658	2,474	4,818	513,633
1955	623,542	675,860	282,890	174,208	3,155	24,097	1,783,752
1956	520,111	781,282	494,943	175,001	7,405	32,907	2,011,649
1957	1,061,307	1,112,608	198,777	11,925	999	38,107	2,423,723
1958	607,048	911,812	357,478	154,585	1,697	52,607	2,085,227

NOTE:- Segregation by species not available prior to 1954 but the packs were practically all pink. Packing on board factoryship on high seas began in 1953 but in that year only one factoryship had canning equipment with and output of only 38,427 cases including 21,450 cases of Red, although there was a little more pack of this species, etc., in that year from fish frozen in factoryships and brought to land canneries. Since then this practice is continued year after year. In latest years, of the total production about 200,000 cases mainly in Pink, Chum and Tidbit are consumed domestically and all the rest is being exported.

ness of foreign nations' protection and conservation formulas, even to that which seeks closure of the Okhotsk Sea to high seas fishing hereafter.

Late in 1958 a society called Japan Salmon Resources Protection Association was organized, but its work seems to be limited to promotion of the hatchery system and improvement of the environmental conditions of salmon streams in Hokkaido and northern Honshu. This matter of stream improvement appears to be an idea which has not previously occurred to the Japanese.

● Main drama of the fisheries in 1958 opened in Moscow early in January of that year as the Soviet Union and Japan sought to agree upon the size of the catch and the conditions and areas of fishing for 1958. The story ran through involved and extended negotiations, and finally in the summer salmon season saw delegations from each country inspecting the fisheries of the other. Climax came in the early fall when Britain released canned salmon from the shackles of exchange permits, enabling Japan's salmon industry once more to sell its oldest customer of all the fish Britain wanted.

The Moscow conference closed April 21 after 99 days, a period during which the main body of the Japanese delegation was changed. As its result, a catch quota of 110,000 metric tons of salmon was set for the Japanese within the treaty zone, as against 120,000 tons the previous year.

Moreover, the Okhotsk Sea operations of the Japanese were limited to a single fleet unit in 1958, and closed for an indefinite time effective with the beginning of 1959. Of the 110,000 metric tons, 91,667 metric tons were allocated to the mothership-system by agreement with land-based gillnet operators.

At the time of the agreement, the Japan Fisheries Agency instructed mothership operators to restrict their catch to 11 million Red salmon in the season's operations, but did not indicate at what locality in the fishing area such curtailment of catch should be effected.

● It was late in April that the party of Western Alaska salmon packers came to Tokyo and talked with the presidents of the three big salmon mothership operating companies, asking them voluntarily to reduce the fishing pressure applied during the past two years west of the Abstention Line to stocks of Red salmon originating in Alaska streams.

With the Japanese pledging lower fishing intensity in the area near the Line, high seas gillnetting started May 11 in the Aleutian area, ending on the deadline set by the Soviet Union-Japan agreement August 10. Restricted operations pledged by the Japanese leaders were observed strictly. As elsewhere, salmon runs in mid-ocean showed aberrant tendencies, presumably due to unusual oceanographic conditions. This worked a severe hardship on the catcher boats, and particularly because of the shortage of Pink salmon. However, this was offset in some degree by the shift to the American standard can height for halves, replacing the former British half.

Possibly as result of a suggestion in these columns of *Pacific Fisherman*, a technical officer of the Japan Fishery Agency was dispatched to Alaska during the summer of 1958 to observe how salmon were allowed to escape through the fishery in order to provide spawning to sustain future runs—a

Japan Fisheries Directory

● Japanese fishery agencies and associations, their addresses and principal officers as of January 1, 1959, were:

General

Fishery Agency, Ministry of Agriculture and Forestry, Kasumigaseki, Chiyoda-ku, Tokyo—Minister, Kunio Miura; Director, Hideo Okuhara.

Japan Fishery Society, 626 Marunouchi Building, Marunouchi, Chiyoda-ku, Tokyo—President, Tatsunosuke Takasaki.

Vessel Owners

Federation of Japan Tuna and Bonito Fisheries Cooperative Associations, Tuna Building, 2-7 Hirakawa-cho, Chiyoda-ku, Tokyo — President, Bunpei Hamaji.

Operators

Japan Canners Association, 567 Marunouchi Building, Marunouchi, Chiyoda-ku, Tokyo—President, Tomohachi Ueta.

Japan Canned Food Exporters Association, Naigai Building, Marunouchi, Chiyoda-ku, Tokyo—Director-in-Chief, Takeshi Aizawa.

Japan Frozen Food Exporters Association, Kohan Building, 3-3 Kasumigaseki, Minato-ku, Tokyo — Director-in-Chief, Kenkichi Nakabe.

Japan Export Frozen Tuna Manufacturers Association, Tuna Building, 2-7 Hirakawa-cho, Chiyoda-ku, Tokyo—Director-in-Chief, Kenkichi Nakabe.

Japan Export Canned Tuna Manufacturers Association, Kokubu Building, 1-2 Nihonbashi-dori, Chuo-ku, Tokyo — Director-in-Chief, Tomohachi Ueta.

Japan Export Canned Salmon Manufacturers Association, 2-8 Ote-machi, Chiyoda-ku, Tokyo — Director-in-Chief, Tsunejiro Hiratsuka.

Japan Export Land-pack Canned Salmon Manufacturers Association, Kanyu Kaikan, 7-25 Ironai-cho, Otaru, Hokkaido — Director-in-Chief, Katsusaburo Usui.

Japan Export Canned Saury Manufacturers Association, Naigai Building, Marunouchi, Chiyoda-ku, Tokyo — Director-in-Chief, Wasaburo Nemoto.

Japanese Canned Crab Pack

(In cases of 48 6-1/2 oz. cans)

YEAR	KING CRAB			OTHER CRABS				TOTAL	No. of Factory-ships	YEAR
	Ocean	Land	Total	Zuwai	Kegani	Hanasaki	Total			
1953	58,240	140,178	198,418	3,966	44,386	5,462	53,814	252,232	1	1953
1954	59,850	85,063	144,913	7,327	286,141	11,520	304,988	449,901	1	1954
1955	206,419	172,000	378,419	4,840	352,955	5,000	362,795	741,214	3	1955
1956	427,350	115,000	542,350	20,000	305,000	25,000	350,000	892,350	6	1956
1957	404,250	85,000	489,250	25,000	250,000	20,000	295,000	784,250	5	1957
1958	379,850	165,000	544,850	45,000	140,000	20,000	205,000	749,850	5	1958

NOTE: Japanese factoryship operation restarted in 1953. Only King crab is packed by factoryship operation though until 1955 a few Zuwai crabs had been packed besides.

measure beyond the conception of the Japanese people at present.

Another important event from the standpoint of conservation and understanding was the exchange of fishery inspection parties between Soviet Russia and Japan during the late summer. In addition to this inspection exchange, Fisheries Minister A. A. Ishkov of the Soviet Union was formally invited to visit Japan, where he showed keen interest in the pelagic tuna fisheries pursued by the Japanese.

Salmon Marketing

● Japan's term for Britain's new policy on salmon purchases is "Kamikaze", meaning "Divine Wind" or "Magic Storm".

In 1958 it blew Sept. 18, when the newspapers reported in a dispatch from Canada that the United Kingdom was freeing canned salmon imports from the "free nations". Even the most veteran international traders were shaken by the announcement, and that night bets were laid in Tokyo on whether or not Japan would be included in the select company of the "free" with whom Britain would freely trade. Next day the good news was confirmed, and perhaps those who bet on the short side were glad to lose.

Prior to the British move the Japan salmon market had been weak, due to the record production of Sockeyes in British Columbia and the good pack of Pink salmon in Alaska. With permits for 6,000,000 licensed previously, shipment of 510,000 cases of salmon of all species moved in August and Japanese sellers were looking to Canada and the United States as outlets for new-pack salmon, evidently expecting to face the necessity of lower prices.

A sliding scale system of export pricing was agreed upon in principle by the representatives of Japanese buyers who visited Tokyo in August. Thanks to this system, up to 350,000 full cases of Pink talls were contracted at $14.75, which was $2 under the standard quotation, before the "Kamikaze" brought the boom.

● In order to avoid disorder in buying and selling, the Japan Canned Salmon Sales Co., Ltd., swiftly arranged a set-up to open a "grand sale" by nomination of 24 Japanese outlets and 12 British brokers. The starting gun of the race was fired September 25, with an October 4 deadline.

Offered, for shipment by Dec. 31, 1958, were:

Item	*Quantity*	*Price fob. Japan*
Red, halves, 96	500,000	$33.00
Red, talls, 48	7,000	29.50
Red, quarters, 48	80,000	19.25
Total Red	547,000	
Silver, halves, 96	60,000	24.35
Silver, talls, 48	4,000	22.35
Silver, quarters, 48	20,000	14.00
Total Silver	74,000	
Pink, halves, 96	100,000	18.30
Pink, talls, 48	30,000	17.00
Pink, quarters, 48	30,000	11.70
Total Pink	145,000	
Chum, halves, 96	50,000	15.75
Chum, talls, 48	20,000	14.50
Total Chum	70,000	
Grand Total	836,000	

Proving the pent-up appetite of the British consumers for salmon, all items offered in the "grand sale" were cleaned up by the deadline, except for some Chums; and in subsequent sales the Japanese undertook commitments to covering an additional 265,000 cases of Red and 55,000 cases more of Silvers.

Thus by the end of October 1958 salmon sales contracts amounting to 1,600,000 cases had been closed, and further offers were falling on deaf ears.

This boom, however, produced some elements of reaction. Interest in export shipping of frozen salmon to Britain ceased. So also the prospect of developing the British market for Japanese canned tuna.

As far as export of canned salmon to the United States was concerned, the names of buyers seemed to be forgotten immediately. For example, one U. S. firm, which had been a large buyer, favoring one Japanese concern, wanted a small lot of Red salmon to fill an urgent need, but only a part of the order could be filled. This the buyer, who could have had the salmon earlier at much less money, resented sharply.

Canned Crab

● Early in 1958 Japanese crab packers and dealers established an export target for the year at 400,000 cases of King crab, 250,000 cases of which would go to America, 100,000 cases to the United Kingdom, and 50,000 cases to other countries.

Figures for cases are given in units of 48 cans of 6½-oz. cans, although in practice some so-called quarter cans are packed. Until the salmon boom broke out there had been unexpectedly strong interest in the English market, with brisk buying through the year; and also some extension of buying interest had been noted in the domestic market.

On the other hand, in the field of production, the ocean pack had come to be limited by international treaty obligation, leaving no probability of any increase in supply.

There it stood late in the year, despite an unusually big pack made at Hokkaido land canneries and a slackening in the export shipment to the U. K. General equilibrium of production and marketing for years ahead is now visualized by the Japanese crab business. Such an outlook could not have been dreamed of about two years before, when a price cut of $2 per case for promotion was resorted to in an effort to move the normal pack.

● Thanks to the recently-developed low-temperature cooking method, the quality of Kegani canned crab has materially improved. As result, the non-exportable grade had practically disap-

1958 Japanese Canned Crab Pack

(In cases of 48 6-1/2 oz. cans)

CANNERY LOCATION	KING CRAB	OTHER CRABS				TOTAL
		Zuwai	Kegani	Hanasaki	Total	
FACTORYSHIP:						
Tokei Maru (b)	59,850	--	---	--	---	59 850
Yoko Maru	80 000	--	---	--	---	80,000
Hakuyo Maru	80 000	--	---	--	---	80 000
Kaiyo Maru	80,000	--	---	--	---	80 000
Shiranesan Maru	80,000	--	---	--	---	80,000
Total FACTORYSHIP	379,850	--	---	--	---	379 850
LAND	165,000	45,000	140 000	20,000	205 000	370,000
GRAND TOTAL	544,850	45,000	140,000	20 000	205 000	749 850

NOTE: Source, Japan Export Canned Crab Manufacturers Association. Pack of "Factoryship" King crab has been completed. Others show current figure as of end of November plus estimate up to end of year.

Factoryship marked (b) operated in Bering Sea close to Alaska. Others operated in Okhotsk Sea off the west coast of Kamchatka on terms set forth by Soviet-Japanese Fisheries Treaty.

peared from the 1958 pack, with the passed-for-export grades finding 97% of the Kegani production in the Choice grade.

The pack of Kegani declined further in 1958, however, due to apparent depletion of the resource. Although there may be some rehabilitation through the coming years, it is apparent that the shortage in the Kegani pack will have to be made up primarily from Zuwai crab.

Export price of Kegani crab increased during 1958 from $12.30 fob. Japan to $14.30.

Canned Oysters

- In 1958 reports reached Japan from the United States that imports of oysters canned in the Hiroshima region of Japan were entering the United States market in volume and at prices which the American producers found highly disturbing. Careful studies by this reporter indicate pack and export of Japanese Canned ("Boiled") Oysters, stated in cases of 48 cans approximately equivalent to the No. 1 Eastern Oyster tin, as follows:

Year	*Production in Cases*	*Exported to U.S.*
1954	9,166	3,985
1955	11,176	9,983
1956	23,664	16,067
1957	69,357	37,217

Obviously, continued increase at such rate would soon produce a serious situation. It is equally obvious that of recent years Japanese producers and shippers have sought to avoid creating ill-will and market opposition by shipments of excessive quantities of Japanese goods.

In examining the probable future of Japanese canned oyster exports, a great trading firm responsible for the export of this product believed that the 1958 pack would be about 120,000 cases, and in no case would exceed 150,000, due to the limitation of the supply of oysters in the Hiroshima district, where canning has come to be concentrated.

The district has an annual production of a little over 10,000 tons of oysters in the shell, of which a maximum of 2,500 tons are available for canning after the active demand for fresh oysters is satisfied. There is a very large domestic consumption of fresh oysters in Japan, and at prices which prohibit canning.

The trading firm declares earnestly that order and stability are primary considerations in any trading with the United States—and that they will prevail in canned oysters as well as in other commodities.

Tuna

- Notably among 1958 events in Japan's tuna fishing industry were:

1. The poor catch of summer Albacore in waters close to the Japan coast;

2. The speed-up in design and building of new medium-type tuna fishing vessels;

3. Development of land-based operations in foreign territory, notably at Santo in the New Hebrides, and the materializing of bases in Malaya and Singapore;

4. Establishment of a policy for control of the export of frozen Yellowfin tuna to the United States.

Policy mentioned in the last item will apply both to lots shipped by refrigerated liner from Japanese ports and tuna transshipped to the United States after being landed by Japanese fishing vessels in other countries, notably those in Central and South America and the Caribbean Islands.

An agreement was reached at the close of 1958 between operators of domestic land freezing plants and the owners of super-clippers having Atlantic operating licenses. This followed a prolonged controversy over the method of adjustment within the Japan Export Frozen Tuna Manufacturers Association. As concerns the export of Atlantic Yellowfin to the United States through an intermediate country, an adjustment will be applied to the total number of trips to be made by the fishing vessels in a year, rather than on the basis of a definite tonnage to be landed. This becomes effective in April, 1959.

- Reopening of the export of frozen tuna loins from Japan to the United States in the fall of 1958, after an embargo lasting approximately a year, was a measure decided upon after long and deliberate study on the part of Japan.

As for canned items, the export quota of 2,000,000 cases set for tuna canned in brine was achieved during 1958 with less-than-expected tonnage of Albacore in proportion to lightmeat. In the present year an increase of at least 10% in Albacore loins is anticipated.

Tuna-in-oil exports from Japan to European countries reached the very

Japanese Foreign-Based Tuna Operations

(By foreign base, in numbers of trips landed and catch in tons.)

YEAR	SAMOA-BASED							NEW HEBRIDES-BASED							TOTAL
	No. of Trips	Yellowfin	Albacore	Bigeye	Marlin	Other	Total	No. of Trips	Yellowfin	Albacore	Bigeye	Marlin	Other	Total	
1955	194	2,917	3,253	609	1,075	195	8,049	--	--	---	---	--	---	---	8,049
1956	244	2,176	3,810	604	1,221	72	7,883	--	--	---	---	--	---	---	7,883
1957	255	1,692	6,150	555	1,199	33	9,629	5	32	102	2	24	8	168	9,797
1958	250	---	---	---	---	---	9,000	30	--	---	---	--	---	3,500	12,500*

Data from Ministry of Agriculture and Forestry, Statistics and Survey Division. * Estimate.

Japanese Mid-Pacific Mothership Tuna Operations

YEAR	Factory-ship	Catcher Boat	CATCHES (Unit, ton)						
			Yellowfin	Albacore	Bigeye	Bluefin	Skipjack	Others	TOTAL
1950	3	44	4,140	49	581	1	12	2,416	7,199
1951	6	88	5,473	138	2,702	2	19	4,069	12,403
1952	2	38	4,468	79	598	7	30	2,067	7,249
1953	2	37	4,830	323	831	7	12	3,031	9,034
1954	6	122	4,317	3,950	1,332	687	16	5,387	15,689
1955	3	103	3,246	5,451	853	7	31	5,480	15,068
1956	3	94	2,246	4,100	1,662	6	16	4,393	12,423
1957	3	96	5,726	3,473	2,060	6	47	4,361	15,673
1958	3	88	---	---	---	---	--	---	15,800*

NOTE:- Source, Ministry of Agriculture and Forestry, Statistics and Survey Division. "Others" include Broad-bill swordfish, Black marlin, White marlin, Striped marlin, Sailfish, Sharks, etc. *Estimated.

respectable total of 850,000 cases in 1958; while such new items as jellied tuna and tuna in tomato sauce also found ready acceptance, Great Britain excepted.

- Japanese canned tuna was enabled to enter the British market first in 1956, when import permits were granted; and considerable progress was made in the first year of introduction, which coincided with a low swing in Peruvian production of "English grade" bonito. Since then, however, efforts to expand Japanese canned tuna sales to the United Kingdom have run up against the Britishers' strong preferences in canned fish, which seem to prefer the soft texture of the Peruvian bonito to the firmness of the Japanese Skipjack, which was used almost exclusively in the imports.

Great effort was also exerted in the introduction of jellied tuna into Great Britain, and there were some encouraging early results; but in the long run it was found that jellied tuna had relatively limited consumer uses, in contrast to the number of ways in which standard tuna could be employed.

A further blow has struck the hopes of Japan's tuna trade with the United Kingdom by the reduced prices for canned salmon following Britain's freeing of the imports of that favorite commodity.

- The 700-ton tuna long-liner No. 30 *Hoko Maru* (completed early in November 1957) returned to Japan at the end of 1958 from a maiden voyage to the Atlantic that lasted nearly 13 months. Considerable interest has been accorded the report of the *Hoko Maru's* captain, for although tuna fishing by Japanese boats in the Atlantic is no longer news, this vessel is said to have been the first to engage in what are now called, perhaps by analogy with billiards, "cushion landings" in Panama for export to the United States.

According to the captain the vessel's first two trips were made in the Gulf of Guinea. On each trip of about 36 days of long-line fishing, she took a full trip of 400 metric tons of tuna, which was delivered at Venice, Italy. The third trip was made off northeastern Brazil, and this is believed to be the trip that was landed at Cristobay. After fueling at Curacao, the *Hoko Maru* tried fishing in the Caribbean, but with poor results, and finished the trip off the Guianas, and in 38 days of fishing got a full trip to bring back to Japan.

The Atlantic grounds, as presently known, extend in a narrow belt along the Equator from Africa to South America, and are not very extensive.

Bering Sea Reduction

- A noteworthy development of 1958 in Japan's ocean fishing enterprise was the operation of the factoryship *Kinyo Maru*, 9,600 gross tons, in the fish oil and meal manufacturing business in the eastern Bering Sea.

This vessel, originally a Finnish steamer, was equipped with twin Atlas reduction plants of Danish manufacture and the latest technological refinements.

She was served on the Bering Sea by a fleet of 20 trawlers and produced in her initial season about 5,000 tons of the highest quality fish meal. Although the *Kinyo Maru's* fish meal production was originally reported as contracted in advance to West Germany, and most of it unquestionably was shipped to Hamburg, it is known that a limited portion of it was shipped from Yokohama to San Francisco just at the end of 1958 at what was reported in Japan to be an extreme attractive premium price.

Pet Food

- Japan-packed pet food to the extent of about 150,000 cases was exported to the United States in an initial trading in 1958; and the prospects for 1959 business indicate the probable shipment of three times as much during the current year.

To date the Japanese pet food has been produced from tuna, blending dark meat with lighter flakes; but it is understood that in 1959 the large companies operating salmon motherships are contemplating the packing of pet food from salmon material. It is believed selected portions of the salmon not canned for human food would be frozen aboard the factoryship and later used in the manufacture of salmon-based pet food at land canneries, thus serving to extend their period of activity.

Aleutian Area Whaling by Japanese

YEAR	Factory-ship	Catcher Boat	WHALES CAUGHT						PRODUCTS (Unit, metric ton)		
			Blue	Fin	Humpback	Sei	Sperm	Total	Meat, Skin	Fin, Whale Oil	Sperm Whale Oil
1952	1	4	55	213	37	14		319	4,054	2,313	
1953	1	4	90	470	42	98		700	7,320	4,951	
1954	2	16	145	1,316	136	129	490	2,216	15,389	13,847	4,069
1955	2	14	70	1,360	117	21	1,084	2,652	13,269	10,882	8,144
1956	2	15	70	1,415	37	48	1,598	3,168	17,038	12,343	12,579
1957	2	17	70	1,405		166	1,700	3,341	19,469	12,305	12,[illegible]
1958	2	15	70	1,331	24	330	1,500	3,255	21,593	11,901	12,823

HAROLD E. LOKKEN, Seattle, Wash.

ALDO CASARETTO, Los Angeles, Calif.

T. H. SORENSEN, Prince Rupert, B. C.

- **MR. LOKKEN** is manager of the Fishing Vessel Owners Association, composed of the Puget Sound halibut fleet. He has held this post continuously since 1924, and is known internationally as a representative of fishing vessel ownership. He was a member of the United States delegation which negotiated the International North Pacific Fisheries Convention in 1951, and has been a member of the American Section's advisory committee since the treaty became effective in 1953.

- **MR. CASARETTO** is active head of Koulouris & Casaretto, Los Angeles fish products distributors, and was president of the National Fisheries Institute in 1957-58.

- **MR. SORENSEN** is general manager of Fishermen's Federation, Incorporated, an American sales company for its parents, Halibut Producers Cooperative, Seattle, and Fishermen's Cooperative Federation of Prince Rupert, of which Mr. Sorensen is also general sales manager. This latter federation in turn is the sales agency for Prince Rupert Fishermen's Cooperative, one of the leading Canadian producing groups with operations throughout British Columbia fisheries.

British Buying Drama

Features 1958 World Canned Salmon Market

• Salmon markets throughout the world reacted with vigor and enthusiasm to the September action of the British government in freeing the United Kingdom salmon buying from all exchange permits and restrictions.

Thus for the first time in two decades Britain was able to buy all the salmon it wanted—and could pay for.

The market reaction was as instant as it was jubilant, for the erasure of controls came at a time of abundance in Sockeye salmon supplies which had producers of Canada and Japan, and the United States indirectly, badly worried as to where the high inventories could be sold, when, and for what.

• This British action was the dominant feature in a salmon selling year which otherwise was characterized by generally scant supplies, priced high and selling with fair steadiness to a trade which seemed resigned to indefinite continuation of this condition.

Japan went into its 1958 producing season with an inventory of Red Salmon halves above 750,000 cases, sufficiently heavy to cause uneasiness.

Then came Canada's great Sockeye year, with a pack of well above 1,000,000 cases.

Japan had a fair pack of this species. Alaska was at an all-time low for Reds, but Puget Sound had a fair pack.

Salmon was available beyond the apparent needs of the market — particularly in the international field.

The all-time-low pack of Reds in Alaska led some hopefuls to declare prices of $35 per case of Red talls, with $23 for halves, advertised brands. Packers' labels generally were available at about $33 for talls at the same time.

Actually, the shortage of Red talls kept these figures reasonably current to the end of the year, the big play and the price leverage coming in halves Sockeye.

• This was the set-up going into September, when the big Canadian Sockeye pack was still largely to be made.

Pink talls, on the other hand, had been "corrected" the middle of August, when a $2 drop to $21 put a stop to the whispering campaign which had been circulating stories about the honesty and good repute of $23 Pink talls.

Soundness of this move was attested in following months as Pinks resisted tendencies toward further price erosion, and actually stiffened somewhat toward the end of the year.

This revision in Pinks was passed along in part to summer Chums, which were marked down a dollar to $17, holding there; although fall Chums

Pacific Canned Salmon Packs and Values

Packs reduced to basis of full cases of 48 lbs. net. Values calculated from best data available.

Year	Alaska		Washington		Oregon		California		U. S. Total		British Columbia		Grand Total	
	Cases	Value ($)	Cases	Value ($)	Cases	Value ($)	Cases	Value($)	Cases	Value ($)	Cases	Value ($)	Cases	Value ($)
1939	5,239,211	35,110,571	478,246	3,944,000	251,070	3,640,898	...	...	5,971,527	42,695,469	1,539,070	10,449,945	7,510,597	53,145,414
1940	5,028,378	31,828,451	222,808	2,825,000	297,716	4,129,220	...	...	5,548,902	38,782,681	1,467,227	11,427,923	7,016,129	50,209,908
1941	6,906,503	57,466,702	491,311	6,162,000	399,840	5,925,444	1,125	13,500	7,798,779	69,567,646	2,248,870	18,406,545	10,047,649	87,974,191
1942	5,089,109	48,677,509	366,065	6,909,000	397,331	6,890,162	...	...	5,852,515	62,476,671	1,811,560	20,050,238	7,664,075	82,526,909
1943	5,396,509	58,579,194	149,175	2,309,000	130,707	2,857,246	767	16,000	5,677,158	63,761,440	1,258,221	11,673,469	6,935,379	75,434,909
1944	4,877,796	51,606,544	81,490	1,774,000	159,783	3,445,244	864	17,660	5,119,943	56,843,448	1,097,558	11,479,093	6,217,521	68,322,541
1945	4,338,692	44,528,964	414,258	4,845,000	155,292	3,287,812	2,755	38,000	4,913,335	52,699,776	1,739,311	18,409,962	6,652,646	71,109,738
1946	3,971,109	58,667,561	385,437	13,020,000	206,563	7,165,645	5,034	153,000	4,568,149	79,006,206	1,348,138	17,532,462	5,916,287	96,538,668
1947	4,302,466	91,297,885	957,429	21,420,000	338,852	11,133,690	13,917	513,000	5,612,664	124,364,575	1,505,157	24,900,000	7,117,379	149,264,575
1948	4,014,891	96,528,730	484,102	12,685,858	314,556	10,956,513	11,417	366,095	4,824,966	120,537,196	1,308,137	26,579,000	6,133,103	147,116,196
1949	4,391,591	81,263,168	973,740	17,481,282	158,472	4,665,290	1,113	21,240	5,524,916	103,430,980	1,436,464	27,654,489	6,961,380	131,085,469
1950	3,272,643	81,403,511	670,341	18,285,000	176,063	6,193,000	...	...	4,119,047	105,881,511	1,482,560½	30,155,177	5,602,056½	138,885,502
1951	3,631,918	84,649,330	906,252	21,357,974	175,091	6,631,198	...	...	4,713,261	112,638,502	1,955,475	46,261,080	6,668,736	158,899,582
1952	3,574,191	76,357,016	749,591	17,122,352	140,565	4,784,421	703	20,292	4,455,022	99,636,808	1,293,435	27,751,435	5,741,490	127,388,24
1953	2,934,667	60,987,334	848,422	18,680,750	127,808	4,063,675	436	15,425	3,911,333	83,747,184	1,821,269	35,060,600	5,732,602	118,807,784
1954	3,094,753	63,356,724	973,941	25,727,689	92,291	3,130,700	2,162	65,431	4,163,147	92,280,544	1,742,736	39,293,176	5,905,883	131,573,720
1955	2,457,969	58,696,300	764,719	17,569,902	138,250	4,996,355	847	30,611	3,286,785	81,293,168	1,406,100	31,644,673	4,692,885	112,937,841
1956	2,950,354	76,948,880	334,505	11,097,115	147,105	5,401,329	694	25,424	3,432,658	93,472,748	1,118,279	32,231,241	4,550,937	125,703,989
1957	2,441,894	62,564,386	624,842	18,296,970	118,161	4,948,224	2,174	78,131	3,187,071	85,887,711	1,424,264	35,872,414	7,798,406	207,647,836
1958	2,948,371	65,495,879	640,656	24,410,715	117,479	5,037,525	130	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

NOTE:- Data for current year are from original sources, and are based on origin of fish canned. Data for previous years generally are from official sources, which disregard origin in cases where fish caught in one area are canned in another.

subsequently became available at $16.50, and some for $16.

● Now back to Sockeyes and the drama of British buying:

Freeing of the United Kingdom salmon market was announced September 17 at the opening of the Commonwealth Trade Conference at Montreal, and produced instant reaction.

The large British distributors went into the market instantly at an export price of $18.50.

Their activities spread from Vancouver to Tokyo and Seattle. In no time at all the Japanese carryover was sold, and orders in Canada were so brisk that packers began to hold back.

This saw a quick shift to Seattle, where there were sales of perhaps 50,000 full cases of Sockeye halves, plus modest sales of Red talls.

Back in Vancouver again, buyers for the British market actually hinted that they were in position to take the entire 1958 pack of better than 1,000,000 full cases of Sockeyes — at $18.50 fob. for cases of 48 halves.

Canadian packers weren't interested in that kind of a deal. They had a carefully-nurtured domestic market to supply and, while they were grateful for the British business, they were not prepared to starve the home market they'd been building just to grab a quick guinea.

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1958 -Imports of Canned Bonito- 1958

(Pounds)

COUNTRIES	Oct. '57	Nov. '57	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	TOTAL
Peru	1,424,000	1,145,000	812,000	868,000	1,007,000	617,000	1,284,000	1,673,000	1,617,000	1,185,000	500,000	713,000	12,845,000
Other Countries	28,000	10,000	38,000	42,000	74,000	30,000	17,000	21,000	30,000	65,000	59,000	71,000	485,000
TOTAL	1,452,000	1,155,000	850,000	910,000	1,081,000	647,000	1,301,000	1,694,000	1,647,000	1,250,000	559,000	784,000	13,330,000

Why Did Britain Want So Much Canned Salmon?

- The burst of British buying showed so little restraint and so much urgency that it generated doubts in the minds of some traders as to its inherent soundness.

There was some wondering, particularly in Tokyo, if there wasn't danger of the British market making itself sick on salmon after 20 years of scant or no supplies.

Closer examination of the evidence, however, leads to the opinion among the best informed elements in the trade that the British were buying in time of plenty against the needs of the future when comparable goods could not be expected in abundance or at $18.50.

Again it appeared evident that the firms with established brands, outlets and reputations were prepared to buy heavily to protect their positions—and were financed adequately for such defensive action, as well as for long-range provision against the inevitable lower supplies of the next few years.

Thus the year closed with consensus in American and Canadian salmon circles that the British are still sharp traders, and that sound salmon bought at realistic levels is still bankable inventory in Britain, and not something which must be sold before the next packing season.

- Britain's free market for salmon had consequences beyond the shelves and

INITIAL PRICES FOR CANNED SALMON

(Per case of 48 cans. Prices in dollars and decimals)

YEAR	Chinook Columbia Riv. Fancy	Sockeye Puget Sound	Red Alaska		King Alaska	Coho — Medium Red		Pink		Chum	
	Halves	Halves	Talls	Halves	Talls	Talls	Halves	Talls	Halves	Talls	Halves
1910	$4.4	$4.4	$5.4	$4.	$5.4	$5.	$3.2	$3.2	...	$3.1	...
1911	5.2	5.2	6.4	4.5	7.2	5.8	4.	4.	$3.2	3.8	$3
1912	5.	5.2	5.6	4.6	5.6	4.6	3.2	2.6	2.2	2.5	2
1913	5.	4.2	4.6	3.8	4.	3.4	2.8	2.6	2.2	2.2	2
1914	5.	5.4	5.8	4.4	5.6	4.6	3.3	3.6	2.8	3.4	2.6
1915	5.	5.4	6.	4.6	5.	4.6	3.	3.	2.3	2.8	2.1
1916	5.	5.6	6.	4.8	5.4	5.2	3.6	3.6	3.	3.4	2.7
1917	7.	7.	9.4	6.6	9.	8.	5.4	6.6	4.6	6.4	...
1918	8.	8.	9.4	6.6	9.	9.6- 9.	6.4	6.6	4.6	7. - 6.4	4.4
1919	8.	10.	13.	9.	12.5	12.	8.	9.	5.6	8.6	5.
1920	10.	12.	13.	9.	12.	8.	6.	6.	4.4	4.6	3.6
1921	8.4	10.	9.4	8.	7.	6.	3.8	4.4	3.2	4.	2.6
1922	13.	10.	9.	7.	7.	5.	4.	4.6	3.2	4.2	2.8
1923	10.	10.	9.	6.6	8.	5.6	4.	5.	3.6	4.8	3.4
1924	8.8	9.	9. -10.	6. - 7.	8.6- 8.4	7. - 6.	5.4- 4.2	5.2- 5.	3.6	4.8	3.4
1925	8.4	9.4-10.	14.	9.	13. -12.	11. -10.	7.4- 7.	5.8- 5.	4. - 4.4	4.6- 4.4	3.6- 3.4
1926	9.4	10.	10.	8.	9.	9.	6.	5.4	4.2	5.	3.6- 3.2
1927	9.4	11.	12.4	9. - 8.6	11.4-10.6	10. - 9.	6.6- 6.	6. - 5.4	4.6- 4.4	5.4- 5.2	3.8
1928	9.8	10.4	9.4	7.4	8.6- 8.	7.4- 7.	5.4	6.6	4.4	6.4	4.
1929	10.4-10.	10.	10.6	8.	9.	8. - 7.4	5.6- 5.4	6.	4.4	5.4	4.
1930	10.	8.	12.4	8.	10.6	9.	5.6	4.	3.	3.6	2.8
1931	8.	8.	9.4	6.6	7.	7. - 6.4	4.8- 4.6	3.4	2.8	3.2	2.6
1932	6.	6. - 5.	5.8- 5.	4.	4.4	4.	3.2- 3.	3.4- 3.	2.4	3. - 2.8	
1933	7.6- 7.	7. - 6.6	7. - 6.6	4.8	6.	5.4	...	4.8	3.	4.6	2.8
1934	7.2	5.4	6.8- 6.4	4.8- 5.	5.4	5.	4. - 3.8	4.2- 4.	3.2	4. - 3.8	3
1935	7.2- 7.	7.	9.4- 9.	6.6- 6.4	8. - 7.	6.6	4.4	4.2- 4.	3.2	4. - 3.8	
1936	8.	7.	8. - 7.6	6.	7.	6.6- 6.4	4.4	4.	3.4- 3.	3.7- 3.6	3. - 2.8
1937	8.4	8.4	10.	6.8	9.	8.	5.	5.	3.4	4.8	3.2
1938	9.2- 8.4	7.	7.8- 7.4	5.6	7.6- 6.8	6.4	5.	4.	3.	3.8- 3.6	2.8
1939	9.2- 8.6	8.	9. - 8.6	6.7- 6.4	8.4	7. - 6.4	5. - 4.8	5.2- 5.	3.6- 3.4	4.6	3.2
1940	9.	8.4	9.6	6.6	9.2	7.4	4.8	5.4	3.8	4.8	3.4
1941	10.4	10.	13.6-13.4	8.2	12.	...	7.	7.	4.8- 4.4	6.8	4.6- 4.2
1942	13.	11.4	15.	10.	...	11.8-11.6	8.	8.	5.6	7.6	5. - 5.4
1943	13.	11.4	15.	10.	14.	11.8-11.6	8.	8.	5.6	7.6	5. - 5.4
1944	13.	11.4	15.	10.	14.	11.8-11.6	8.	8.	5.6	7.6	5. - 5.4
1945	13.	11.4	15.	10.	14.	11.8-11.6	8.	8.	5.6	7.6	5. - 5.4
1946	18.5	19.	22. -20.	16.5-13.4	20.	17. -16.	11.6	12.	8.4	11.6- 9.4	8.
1947	20. -19.	22. -19.	24.5-22.6	17.5-16.	22. -21.4	22.	15.4-15.	19. -17.2	13.5-11.5	18.5-16.5	12.5-11.1
1948	23.5-22.	22.	27. -26.	19. -18.	26. -24.	25.	17.5-15.	23. -22.	15. -13.	20. -22.	13.5-12.
1949	20. -18.	...	26.5-25.	16. -15.	24. -22.	22. -21.	12.5	16.	10.	15.	9.5- 9.
1950	19. -21.	19. -20.	28. -29.	18.	23.	19. -22.	15.5	22. -24.	15.	20. -21.1	12.
1951	21. -23.	19. -21.	29. -31.	18.	26.	25.	15.	21.	12.5	18.	11
1952	22. -23.	20. -19.	27. -30.	17.5-18.	25.	21.22.	12. -13.	18. -20.	12.	16.	9
1953	20. -21.	18.5-17.5	27.	17.	24.	20.	12.	18.	10.2-10.5	14.	8. -8.5
1954	20. -21.	18.5-16.5	28. -29.	16. -18.	25.	23.	13.5	20.	12.5-13.	15.	9
1955	22. -23.	20. -21.	32. -33.	18.5-19.7	28.	26.	15.	22. -23.	13.5-14.5	18.	10. -10.5
1956	23. -24.	23. -24.	33. -34.	21. -23.	29. -30.	28.29	16.	23. -24.	13. -14.5	21.	11.5-12.
1957	24. -26.	23. -24.	33. -34.	21. -22.	28. -29.	27. -28.	15. -16.	23.	13.	19. -21.	11.5-12
1958	25. -26	19. -21	33. -35	18. -21	28. -29	27. -28	15. -16.5	21.	13. -13.5	17	11. -11.5

NOTE: The title of this tabulation has been changed from "OPENING PRICES" to "INITIAL PRICES", and the prices of pre-war years, originally quoted per dozen each are converted to the per case basis which is now in general use.

The prices are quoted in dollars and decimals thereof, rather than in dollars and cents, and are based largely on formal "opening prices" announced as such by leading sellers; they are not limited exclusively to such quotations. The formal "opening prices" of different concerns are often incomplete, and vary so widely that a full presentation of them might be confusing. The purpose of this tabulation is to present comprehensively for each year the earliest prices at which substantial quantities of the pack were sold.

The prices here quoted for the war years are the "ceilings" established by the government. Those for 1946 are the prices announced by the majority of large packers after "de-control".

1958-Weighted Average Shellfish Prices at Seattle-1958

SPECIES	Unit	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	Aug.	Sept	Oct.	Nov
CLAMS													
Butter	lbs.	$ .09	$ .08	$ .09	$ .09	$ .09	$ .09	$ -	$ -	$ -	$ -	$ 09	$ .09
Razor	lbs.	-	.30	.30	.29	.21	-	-	-	-	-	-	-
Little Neck	lbs.	.13	.13	.13	.13	.13	-	-	-	-	-	.13	12
Manila	lbs.	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	.11	11
Clammeat	lbs.	-	-	-	-	.45	-	-	-	-	-	-	-
Crabs, Dungeness, Cooked	lbs.	.21	.16	-	.18	.18	.18	-	-	-	-	.18	18
Crabs, Ocean	doz.	-	1.95	2.00	2.30	2.30	2.30	2.30	2 30	-	-	-	-
Crabs, Puget Sound	doz.	1.90	-	-	-	-	-	-	-	-	-	2.20	2.20
Crabmeat	lbs.	.85	.73	.73	-	.78	.78	-	-	-	-	.78	.78
Octopus	lbs.	.05	-	.05	.05	.05	.05	.05	05	-	05	.05	.05
OYSTERS													
Olympia	gal.	32.00	32.00	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	33.50	32.00
Pacific	gal.	4.15	4.10	4.10	4.10	4.10	4.10	4 10	4 10	4.10	4.10	4.10	4.10
Coast	gal.	4.15	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4 10	4.10	4 10
Shrimp, local	lbs.	-	-	-	-	.35	.35	35	-	-	-	-	-

shops. It served, for example, to stiffen the Japanese position in the North Pacific, where the pressure of the Red salmon carryover in the spring of 1958 had left the Japanese industry particularly sensitive to the reactions of the American operators through which Japan sells salmon to the United States market.

With the carryover taken by Britain, the Japanese attitude with respect to American packers' protests against the effect of high seas fishing on the Alaska salmon resource was noticeably less sympathetic than it had been when stocks-on-hand seemed heavy in the preceding spring.

- There was no new salmon canned from frozen fish on the market in 1958, and this eliminated an element of uncertainty and doubt from the trading picture. It is true that there were still some minor parcels of this product carried over from previous seasons, and that these were sold in the fall of 1958 at price concessions. They are believed to have furnished the only instances in which the $18.50 export price was shaded.

Salmon Industry Resumes Product Promotion Program

- With the advent of 1958 the canned salmon industry resumed its product promotion program under a five-year arrangement.

Direction of the program was entrusted to Cole & Weber, Seattle, with the 1958 Lenten season as the first objective. The promotion then shifted quickly into a "Salmon for summer" theme, while through it all ran a steady devotion to courtship of the new consumer.

The program was keyed to consistent support of canned salmon before the consumer and the grocery trade. Record of response through 1958 indicated an effective first year of five, and probably more.

E. H. CLARK & CO.
FOOD
PRODUCTS
BROKERS
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210 California St.
San Francisco 11, Calif.

CARR-O'NEILL
BROKERAGE CO., Inc.
BUTTE MONTANA BILLINGS
12 WEST BROADWAY SELVIDGE-BABCOCK BLDG.
Phone 7259 Phone 5-5075
Territory: State of Montana and Northern Wyoming
ESTABLISHED 1917
Members:
National Food Brokers Association
Financial Reference:
Metals Bank & Trust Co., Butte

DRESSEL-COLLINS
FISH CO.
Wholesale Dealers
Canned Salmon
Fresh — Frozen
Pier 66 Seattle 1
Phone MA 4-3073

ALLEN SALES CO.
Sales Agents for
"CARNATION"
CANNED SALMON
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"Defender" and "Robert E. Lee"
CANNED CRAB, SHRIMP, OYSTERS & TUNA
FROZEN SEA FOODS
A few areas still open for field brokers
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SEATTLE 99 AT 4-1120

PORTER SALES
ASSOCIATES
Food Brokers
Salmon — Tuna — Crabmeat
SUCCESSOR TO:
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William A. Mann & Son
Barker, Harris & Company
206 Atlantic Avenue Boston, Mass.
CApitol 7-7350

MID-CONTINENT SALES COMPANY
Specialists in Seafood Marketing
OUR 12TH YEAR
510 N. Dearborn Street - Chicago 10, Ill.
Gershon J. Feigon • MIchigan 2-3520

A. H. MORSE CO.
BROKERS
Canned Goods — Frozen Foods
New England Coverage
1297 Beacon St. Brookline 46, Mass.

Atwood Adhesives, Inc.
Manufacturers of
Modern Labeling and Sealing Adhesives
1000 Eighth Ave. So. MA 4-8636
Seattle 4, Wash.
4023 No. Interstate Ave. AT 4-1493
Portland 12, Ore.

"A Dazzling Opportunity"

● Those who sell British Columbia canned salmon faced a dazzling opportunity in 1958—a record pack of Sockeye and a vastly increased market. This was a combination hard to beat, and fisherman and packers had good reason to be happy about it.

The Sockeye pack totalled 1,078,686 cases, and the only time that figure was surpassed was back in 1905, and then by only a few hundred cases and with a price structure very different from what it is today.

Total salmon pack was close to 2,000,000 cases and, while there have been several other years when the pack exceeded that figure, in none of them had Sockeye represented such a high proportion as in the season of 1958. The B. C. pack of Sockeyes caught in international convention waters was 420,000 cases.

Belated realization that a huge run of Sockeye was headed for the Fraser gave the industry some anxious moments at first. The Sockeyes were late—one to three weeks behind their usual schedule—and this caused some misgivings, but the real worry of the packers came with the assurance that, late or not, they were going to have an exceptionally large pack to sell.

Fortunately, they didn't have long to harbor this worry. The big run had barely started when news came through that the United Kingdom, acting through its Board of Trade, had lifted import restrictions, that the British market was free for the first time since before World War II. Until then some of the packers' credit had been tenuously extended at the banks to meet the prospect of a heavy carryover. It had been felt in some quarters that it might take more than two years for existing markets to absorb the big pack that seemed inevitable, but the sudden reopening of the British market dissipated the clouds, and brokers and packers were too busy filling orders for overseas delivery to be concerned with their earlier fears of a growing surplus of unsold salmon.

● The packers, as the 1958 season opened, faced not only the prospect of an extraordinary run of Sockeye, but a large carryover of Cohoes, Pinks and Chums in what the Fisheries Association of B. C. modestly termed "disturbed markets". It was taken for granted that much of the 1958 pack would have to be carried over into 1959. Tight money and the additional cost of warehousing and financing would add to the expected downward price structure, and bank loans were the highest in history, even without the Sockeye pack. Financing the pack to avoid chaotic marketing, it seemed certain, would be an enormous problem.

With market after market being closed by lack of Canadian dollars or Japanese competition and most of the British Commonwealth countries sharply limited in their purchases by currency restrictions, the United Kingdom was the only substantial export market, and it was obvious that Canada would have to absorb more canned salmon than ever if a serious market glut were to be avoided.

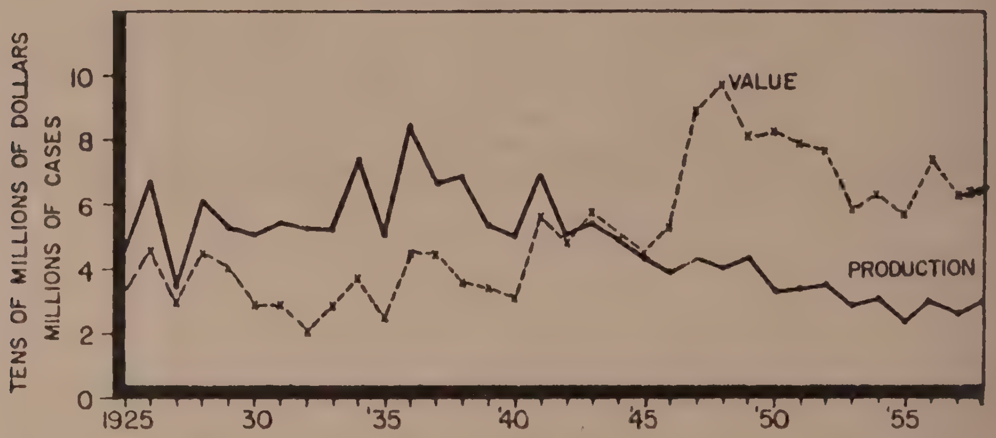
The sudden re-opening of the British market (except to Soviet Russia) thus afforded heartening relief to the whole industry. There would be some carryover, of course, but it would be needed to meet requirements in 1959, when the pack will be much lighter. And certainly there would be no need

BRITISH COLUMBIA CANNED SALMON PRICES

	SOCKEYE			COHO, SPRING, BLUEBACK			PINK			CHUM	
YEAR	1-lb. Talls or Flats 48's	½-lb. Flats 96's	¼-lb. Flats 96's	1-lb. Talls or Flats 48's	½-lb. Flats 96's	¼-lb Flats 96's	1-lb. Talls or Flats 48's	½-lb. Flats 96's	¼-lb. Flats 96's	1-lb. Talls or Flats 48's	½-lb Flats 96's
1942-4b	$16.25	$17.50	$10.50	$11.50	$12.75	$ 8.12½	$ 6.25	$ 7.50	$ 5.00	$ 6.25	$ 7.50
1945-6b	17.65	18.90	11.20	12.90	14.15	8.82½	7.65	8.90	5.70	7.65	8.90
1946-c	18.30	20.30	...	13.90	15.25	...	8.30	9.70	...	8.30	9.70
1947	23.50	25.00	15.00	20.00	21.50	13.00	12.50	14.50	...	12.00	13.50
1948	28.50	30.00	17.50	24.50	26.00	15.25	16.50	18.00	...	15.00	16.50
1949	31.50	33.00	19.00	23.50	25.00	15.00	16.50	18.00	...	12.50	14.00
1950	31.50	33.00	19.25	23.50	25.00	15.00	17.50	19.00	12.00	14.00	14.00
1951	36.00	38.00	21.50	27.50	29.00	17.00	19.00	20.50	12.75	16.50	18.00
1952	31.50	33.00	19.00	20.50	22.00	13.50	15.00	16.50	10.75	13.00	14.50
1953	28.50	30.00	17.50	20.50	22.00	13.50	15.00	16.50	10.75	13.00	14.50
1954	30.00	32.00	18.50	22.50	24.00	14.50	16.00	17.50	11.75	14.50	15.50
1955	35.50	37.00	21.50	26.50	28.00	17.00	18.00	19.50	12.75	15.00	16.50
1956	38.50	40.00	23.00	30.50	32.00	19.00	21.00	22.50	14.25	19.00	20.50
1957	38.50	40.00	23.00	27.50	29.00	17.50	21.00	22.50	14.25	18.00	19.50
1958	35.50	37.00	21.50	26.50	28.00	17.00	20.00	21.50	13.75	13.00	14.50

NOTE: - Quotations for 1948 and 1947 packs represent packers' opening prices to the domestic market. Prices received for 1950 sales under the contract to the United Kingdom were considerably less than those quoted. Prices marked 'c' were established by the Canadian government in Dec. 1946, for sales to the domestic trade, but are also roughly equivalent to those received for export to the United Kingdom, etc. Prices marked 'b' were those paid by the British Ministry of Food in 1945-46 and 1942 to 1944.
In 1954 there was considerable variation in prices by major packers especially for Sockeyes and Chums. Two prices were paid for Chums according to grade, Fancy, $14.50 & $15.50; Standard, $13 and $14.50.

Alaska Canned Salmon Packs and Values



for Canada to import Japanese salmon, as there was in 1956 and 1957.

At the year-end it was still uncertain as to just how much the United Kingdom paid for its share of the 1958 pack. Estimates ran as high as $35,000,000 for the B. C. and Puget Sound areas combined, with B. C. packers probably accounting for about 80%. While British buyers seemed in the mood to buy everything in sight to meet the demands of a market that had been throttled down for 20 years, B. C. operators were determined not to neglect their dependable and growing Canadian domestic market. It was hoped that the Canadian consumer would buy more canned salmon from the 1958 pack than usual—more than 800,000 cases, but the British market took some 600,000 cases, more than double the quantity sold there the previous year.

Just how this increased volume of canned salmon would be accepted by the British consumer was a matter of considerable speculation. With so much more salmon to offer and at a lower price, there seemed to be a good chance that over-all demand would rise with the supply. But the impact of Japanese salmon on that market was an uncertain factor since the United Kingdom planned to buy 830,000 cases of that pack before the end of 1958.

B. C.'s opening price to the United Kingdom market were on the basis of $18.50 a case.

McCallum Sales Ltd.
Canned Salmon & Crabmeat
Fresh & Frozen Salmon and Halibut
Whole Brine Frozen Cooked Crabs
Eviscerated Poly Bagged Crabs
Vacuum Packed Crabmeat
Brands
Queen Charlotte — High Seas — Thunderbird
2117 Commissioner Street Vancouver 6, Canada
cable "McSales"

K. J. PREISWERCK LTD.
VANCOUVER, B. C., CANADA
CABLES: PREISCO TELEPHONES: MU 3-1285-6-7
Direct exporters and assemblers of canned salmon, sardines and herring under own or buyers labels
Sampling Service Free
30 YEARS EXPERIENCE AT YOUR SERVICE

BAYSIDE SUPPLIERS, LTD.
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POWELL & RUSSELL LTD.
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Cables: Powrus
Importers, Exporters and Insurance Agents
Specializing in Canned Salmon Est. 1932

J. H. TODD & SONS, LTD.
Salmon
1104 Hornby Street Established 1881
Vancouver, B. C.

Selling 16 Million Cases a Year

• The record-breaking pack of tuna—in California up 17% over 1957—underscores the national acceptance of tuna as a basic food staple in the American home — acceptance kept keen by one of the most notable and aggressive merchandising programs in the entire food industry.

It sold 16,000,000 cases of tuna in the United States in 1958.

Canners say that retailers like tuna because it is a sound profit item, and because it moves fast, stimulated by canner advertising. Retailers agree that it moves fast, but they are not in entire agreement with the canner viewpoint as to the profit in tuna. Much of it moves, they say, on special as a loss leader. Still, they like to push it, and sales of canned tuna are brisk and healthy.

The U. S. market for canned tuna is growing steadily and rapidly. Some speakers with authority say the rate is around 10% per year. Others put it at 6%. In either case it is growing considerably faster than the population of the U. S., which is said to increase at about 3% a year.

Tuna, in short, is a dynamic, grow-

California Pack of Canned Tuna and Related Fishes

YEAR	— Cases —									YEAR
	SAN PEDRO DISTRICT				SAN DIEGO DISTRICT				GRAND TOTAL	
	Light Tuna	White Tuna	Other Tuna*	TOTAL	Light Tuna	White Tuna	Other Tuna*	TOTAL		
1912	...	...	...	...	...	...	...	...	75,900**	1912
1913	...	...	...	...	...	...	...	...	77,500**	1913
1914	...	...	...	...	...	...	...	...	217,000**	1914
1915	...	...	...	...	...	...	...	...	237,365**	1915
1916	315,880	82,593	6,457	404,930	71,062	13,593	245	84,900	489,830	1916
1917	382,273	118,769	11,928	512,970	140,563	17,261	12,746	170,570	683,540	1917
1918	228,241	82,801	87,110	398,152	50,129	...	73,072	123,201	521,353	1918
1919	487,812	144,383	65,008	697,203	62,318	47,869	24,572	134,759	831,962	1919
1920	668,012	§	1,534	669,546	167,633	§	1,623	169,256	838,802	1920
1921	72,410	255,194	...	327,604	27,869	82,157	48	110,074	437,678	1921
1922	334,733	166,496	3,651	504,880	129,349	27,269	23	156,641	661,521	1922
1923	312,187	209,591	17,803	539,581	224,315	88,014	4,869	317,198	856,779	1923
1924	134,497	278,855	113,401	526,753	27,207	106,958	11,382	145,547	672,300	1924
1925	323,422	358,940	116,149	798,511	187,909	95,007	11,936	294,852	1,093,363	1925
1926	380,074	43,660	150,185	573,919	188,649	14,578	56,280	259,507	833,426	1926
1927	381,541	105,598	231,751	718,890	436,700	20,916	30,368	487,984	1,206,874	1927
1928	473,868	99,093	128,374	701,335	473,704	658	21,581	495,943	1,197,278	1928
1929	394,819	130,212	146,104	671,135	700,020	2,426	55,284	757,730	1,428,865	1929
1930	658,728	143,748	130,159	932,635	950,461	1,783	35,510	987,754	1,920,389	1930
1931	394,668	144,796	85,653	625,117	543,536	177	10,303	554,016	1,179,133	1931
1932	385,399	52,215	88,112	525,726	606,608	...	15,655	622,263	1,161,151	1932
1933	341,290	49,391	71,388	462,069	877,124	...	52,980	930,104	1,392,173	1933
1934	714,546	82,182	116,526	913,254	982,547	...	31,509	1,014,056	1,927,310	1934
1935	808,578	107,501	230,772	1,139,851	1,222,894	4,648	109,323	1,336,875	2,476,727	1935
1936	840,151	53,849	153,107	1,047,107	1,392,531	35	147,509	1,540,075	2,587,182	1936
1937	881,208	83,123	260,016	1,224,346	1,680,720	8,036	105,211	1,793,967	3,018,314	1937
1938	697,804	265,034	233,766	1,196,604	1,282,571	24,355	95,202	1,402,128	2,598,732	1938
1939	982,225	281,666	262,367	1,526,258	1,633,113	46,372	70,917	1,750,402	3,305,297	1939
1940	1,110,181	122,484	315,778	1,548,443	2,045,071	19,304	251,623	2,315,998	3,868,394	1940
1941	554,782	73,024	235,910	863,716	1,372,594	10,145	274,643	1,657,382	2,530,169	1941
1942	594,056	128,670	97,901	820,627	1,164,524	104,578	146,234	1,415,336	2,242,220	1942
1943	554,928	187,052	234,382	976,362	699,099	227,347	394,265	1,320,711	2,308,415	1943
1944	805,081	125,632	270,821	1,201,534	760,263	307,806	537,889	1,605,958	2,809,177	1944
1945	825,377	148,286	503,118	1,476,781	1,518,646	329,251	128,686	1,976,583	3,456,442	1945
1946	1,170,791	141,629	646,615	1,959,035	2,023,870	233,622	332,529	2,590,021	4,555,397	1946
1947	1,317,016	104,726	733,587	2,155,329	2,576,804	145,300	418,797	3,140,911	5,357,498	1947
1948	1,264,615	290,811	771,182	2,326,608	3,096,315	462,255	406,248	3,964,818	6,346,952	1948
1949	810,362	289,063	1,458,374	2,557,799	2,967,150	535,013	449,413	3,951,576	6,590,396	1949
1950	1,024,410	586,683	2,673,668	4,284,761	1,412,220	482,894	1,961,297	3,856,411	8,141,172	1950
1951	3,143,863	580,377	77,229	3,801,469	3,015,164	409,819	10,260	3,435,243	7,530,264	1951
1952	4,204,207	1,002,020	196,453	5,402,680	1,742,124	626,944	34,234	2,403,302	8,102,842¶	1952
1953	4,042,121	1,366,103	100,252	5,508,476	2,139,393	655,989	69,866	2,865,248	8,624,109¶	1953
1954	4,712,414	1,206,664	27,126	5,946,204	2,880,712	393,486	48,409	3,302,847	9,638,773¶	1954
1955	4,872,188	903,814	2,501	5,778,503	2,017,242	244,599	2,218	2,264,059	8,549,678¶	1955
1956	4,980,228	1,038,030	3,978	6,022,236	2,717,577	343,886	2,516	3,063,979	9,662,579¶	1956
1957	4,789,433	1,588,182	3,924	6,381,539	2,352,808	458,586	4,364	2,815,758	9,197,297	1957
1958	6,211,797	932,919	87,050	7,231,766	3,135,017	335,268	20,023	3,490,308	11,270,693	1958

¶ Quantities of tuna canned in Monterey, San Francisco and elsewhere in Northern California have been included in the grand total. Figures are for standard cases of 48 halves or equivalent. Figures for final year are temporary totals from official sources. Data for previous years have been corrected according to official statistics of the California Department of Fish and Game.

* "Other Tuna" through 1950 includes Bonito, Yellowtail, Flakes and Tonno. For 1951 and thereafter this column includes only Yellowtail and Bonito, Flakes and Tonno being included in other columns.

§ Included under other heads.

** No segregation available prior to 1916.

TUNA

ing commodity on an upward sales curve.

New Packages Introduced in 1958

- The tuna industry's vitality and aggressiveness was expressed last year in several new tuna packages and products.

Van Camp Sea Food Co. and Star-Kist Foods both came out with new "three-quarter" cans.

Westgate shortly afterwards launched its Tri-O'-Pack, three "halves" packaged together in an attractive, colorful carton, to encourage multiple purchases. The Tri-O'-Pack is a logical step in the trend begun years ago by soft-drink merchandisers and since followed by many products, both food and non-food.

The Tri-O'-Pack in December won the Carton-of-the-Month award granted by the Robert Gair Division of Continental Can Co.

All three new packages were introduced at special prices, substantially under the regular retail figures. For that reason, it is hard to say at this time whether the new size and packs will really sell more tuna, or whether the housewife will buy more while the price is down, then go right back to her old habits when prices go back to their old levels.

Retail chain buyers queried by *Pacific Fisherman* disagreed on the point. Some said the new packs definitely were selling more fish, others said housewives were buying no more, but shifting to the new sizes. Retail buyers at this time refuse to guess on the future of the new packs. As 1959 opened, they were moving satisfactorily.

- A tuna product, "Tunies," which had been in the delicatessen cases in a transparent film wrap for more than a year, last year became a canned item, packed in No. 1 talls. The new can is attractively and colorfully lithographed. The product is a frankfurter containing no meat, but tasting almost exactly like the familiar meat product.

An Eastern firm, Tuna Products Corporation of Boston, in 1957 began manufacture and marketing of Sealady brand meatless frankfurters. The company is a subsidiary of Japan Cold Storage Co. of Tokyo, and is headed by Mr. Susumu Matsuzaki, president; Dr. Yaichi Aikawa, treasurer, and Emilio DiLoreto, secretary.

According to the publicity, Tuna Products Corp. will soon introduce smoked tuna "ham" and fresh "chicken" tuna loins to the U. S. market. These products are in wide use in Japan.

U.S. Production of Fish Sticks

(Pounds)

Month	1958			1957	1956	1955	1954	1953
	Cooked	Uncooked	Total					
January	5,008,000	470,000	5,478,000	4,204,000	4,883,000	5,345,000	2,771,000	115,000
February	5,496,000	437.000	5,933,000	5,189,000	5,344,000	5,794,000	3,180,000	133,000
March	5,142,000	384.000	5,526,000	5,090,000	6,103,000	7,205,000	4,003,000	148,000
April	4,345,000	511.000	4,856,000	4,435,000	3,792,000	5,953,000	3,841,000	35,000
May	3,718,000	511 000	4,229,000	3,322,000	3,894,000	4,879,000	3,941,000	22,000
June	4,220,000	483,000	4,703,000	3,464,000	3,601,000	5,392,000	4,381,000	31,000
July	3,964,000	370 000	4,334,000	3,763,000	3,174,000	4,340,000	3,810,000	417,000
August	3,832,000	437.000	4,269,000	4,585,000	4,187,000	4,520,000	4,364,000	454,000
September	4,570,000	566.000	5,136,000	4,803,000	4,107,000	4,535,000	4,272,000	809,000
October	*	*	*	5,104,000	5,085,000	5,261,000	5,637,000	1,435,000
November	*	*	*	4,520,000	4,607,000	4,946,000	4,803,000	1,902,000
December	*	*	*	3,955,000	4,041,000	4,876,000	4,959,000	2.001.000
TOTALS	40,295,000	4.169.000	44,464,000	52,434,000	52.818 000	63,046,000	49,962,000	7,502,000

*Segregation not available for last quarter of the year.

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CALIFORNIA CANNED FISH PACKS

YEAR	Albacore Cases	Tuna-Bluefin Cases	Tuna-Skipjack Cases	Tuna-Yellowfin Cases	Tuna-Chunks, Flakes	Tuna-Tonno Cases	Bonito Cases	Yellowtail Cases	Mackerel Cases	Salmon Cases	Sardine Cases	Shad Cases	Squid Cases	Pet Food Cases	Misc. Cases	TOTAL CASES	YEAR
1926	66,001	70,283	274,970	165,561	8,162	131,553	44,186	18,940	550	11,761	2,163,755	.....	23,536	.....	63,794	3,043,052	1926
1927	126,699	50,008	382,175	366,395	7,631	207,496	22,277	24,530	10,961	8,435	2,625,412	6,485	.....	.....	44,396	3,882,900	1927
1928	99,751	132,342	194,491	503,077	16,733	117,821	18,900	5,657	388,471	4,585	2,815,330	7,475	2,056	.....	124,809	4,431,498	1928
1929	132,638	89,728	347,132	612,810	18,613	119,805	47,674	15,296	611,503	5,503	3,941,459	9,791	6,056	.....	53,925	6,012,433	1929
1930	145,531	309,604	268,130	878,382	29,561	74,985	69,341	21,343	127,333	11,202	3,069,524	1,796	25,271	.....	127,236	5,159,239	1930
1931	144,973	46,462	278,398	613,344	19,441	36,220	38,254	2,041	101,217	14,070	1,794,991	.....	19,827	44,372	4,855	3,158,465	1931
1932	65,377	8,687	305,007	678,313	16,291	42,247	42,114	3,115	89,176	2,005	1,001,845	201	.....	67,256	50	2,323,052	1932
1933	49,391	7,581	273,041	937,792	13,090	41,200	36,560	33,518	760,126	3,076	1,422,860	.....	1,740	112,725	1,369	3,698,293	1933
1934	82,182	332,411	267,328	1,097,912	30,502	55,163	52,554	9,816	1,214,491	820	2,051,726	.....	4,257	80,224	1,104	5,324,084	1934
1935	112,149	438,501	338,493	1,254,478	41,658	82,205	128,065	81,177	1,761,186	874	2,529,262	5,039	8,781	122,826	2,269	6,920,625	1935
1936	53,884	334,377	480,260	1,418,045	24,873	58,537	104,078	112,128	1,228,348	.....	2,820,742	13,124	12,282	128,384	5,178	6,803,815	1936
1937	91,159	215,535	763,916	1,582,477	50,438	137,737	129,572	47,480	793,780	147	2,983,204	6,361	5,531	179,230	100	6,986,616	1937
1938	289,389	324,198	372,998	1,284,179	64,476	67,404	125,854	71,234	958,890	.....	2,443,469	11,244	20,167	287,403	545	6,341,557	1938
1939	356,675	218,476	469,570	1,927,292	72,240	77,340	159,090	24,614	968,718	.....	3,326,162	12,665	23,926	384,427	150	8,021,345	1939
1940	145,741	313,210	836,223	2,005,819	227,320	184,232	87,367	68,482	1,435,113	.....	3,188,089	15,743	34,603	832,091	100	9,374,133	1940
1941	92,240	168,702	433,029	1,325,645	170,549	33,838	176,859	129,307	843,747	1,125	5,395,284	68	21,587	1,027,903	16	9,820,483	1941
1942	239,505	279,098	719,574	759,908	150,976	23,479	32,288	37,392	614,090	.....	3,846,785	24,945	941	197,403	.....	6,941,643	1942
1943	425,741	174,865	383,167	696,209	502,515	26,599	35,625	73,268	839,312	1,475	3,400,106	11,516	119,237	.....	11,131	6,699,736	1943
1944	435,123	374,004	363,857	827,483	757,800	15,365	8,490	19,848	986,422	1,691	3,725,657	12,541	141,808	.....	45,206	7,738,949	1944
1945	480,615	297,858	548,174	1,497,991	548,454	16,198	49,816	17,336	589,617	5,457	3,884,582	.....	184,141	.....	225,971	8,346,210	1945
1946	381,271	333,001	648,289	2,213,692	826,793	.....	108,306	44,045	716,668	9,817	3,102,232	589	643,843	.....	56,689	9,085,235	1946
1947	286,272	370,893	904,451	2,642,354	742,038	33,762	243,994	133,734	1,522,199	18,754	1,814,050	1,778	229,967	1,087,040	199,115	10,230,401	1947
1948	797,035	98,473	930,235	3,335,759	850,760	22,663	158,253	153,428	971,646	22,786	3,203,028	2,477	369,762	1,153,802	204,741	12,274,848	1948
1949	861,737	46,336	1,068,215	2,604,947	1,762,223	82,859	20,312	53,767	924,104	1,801	4,286,034	893	88,21[illegible]	1,249,366	20,265	13,161,076	1949
1950	1,125,463	11,186	734,528	1,632,625	4,497,839	257,356	8,263	14,073	1,410,541	4,279	5,430,439	1,948	84,675	2,060,709	85,827	17,359,751	1950
1951	607,230	.....	.....	1,586,142	4,793,574	162,277	14,356	87,489	1,040,300	1,266	3,052,642	1,078	224,884	1,593,176	431,465	13,595,879	1951
1952	962,063	.....	.....	1,547,310	5,443,228	129,502	46,509	181,261	1,573,745	3,115	109,633	1,375	1,616	1,751,006	724,522	12,474,385	1952
1953	1,215,362	.....	.....	1,352,438	5,710,186	176,002	69,638	100,480	598,305	4,931	64,084	4,911	166,612	1,692,796	1,202,769	12,358,514	1953
1954	1,092,313	.....	.....	1,592,457	6,398,302	180,166	44,603	30,932	383,500	2,162	1,437,228	1,097	134,718	1,892,187	469,814	13,960,379	1954
1955	1,285,249	.....	.....	1,251,193	5,395,631	202,880	2,[illegible]	1,980	564,672	2,954	1,537,793	.....	281,890	2,373,366	478,934	13,797,287	1955
1956	1,029,810	.....	.....	1,238,516	7,240,023	147,492	1,605	4,883	1,131,[illegible]	5,189	739,650	3,976	387,207	3,099,[illegible]	618,208	15,835,706	1956
1957	1,227,593			1,067,147	7,255,[illegible]	166,717	3,375	4,913	1,360,[illegible]	[illegible] 174	523,228	859	261,097	3,399,763	528,965	15,802,218	1957

Bluefin, Skipjack and Yellowfin are combined under Yellowfin from 1951. Cases are as they run.

Value of Principal Canned Fish Products

Year	PACIFIC SALMON			SARDINES		Tuna	Mackerel	Oysters	Shrimp	Clams	Crabs	Miscellaneous Fish Products	GRAND TOTAL
	Pacific Coast States	Alaska	Total	New England States	California								
1921-25*	$11,060,592	$29,457,922	$40,518,514	$5,781,523	$4,428,409	$5,751,385	.....	$2,704,433	$3,928,434	$1,721,051	$71,087	$1,552,481	$66,457,317
1926-30*	12,772,490	38,329,082	51,101,572	6,281,996	9,494,787	8,990,774	$979,927	2,344,887	5,022,925	2,517,544	36,729	2,703,368	89,474,509
1930-35*	7,301,890	28,513,777	35,815,667	2,974,505	4,519,462	8,646,033	2,117,791	1,392,686	3,836,331	2,242,896	109,235	2,649,056	64,303,662
1936	5,309,438	44,751,633	50,061,071	5,740,454*	7,302,273	14,715,391	3,542,895	2,180,869	4,672,198	2,976,297	130,753	3,242,053	94,564,254
1937	8,386,165	44,547,769	52,933,934	4,998,373	8,592,117	18,995,779	2,673,608	2,932,681	7,130,747	3,013,446	269,699	3,634,551	105,174,935
1938	5,728,892	36,636,897	42,365,789	2,367,045	7,102,358	15,183,636	2,896,220	1,886,476	4,872,393	3,189,628	260,134	3,322,210	83,445,889
1939	7,339,727	34,441,122	41,780,849	7,075,096	9,553,663	20,079,567	2,588,695	2,378,945	5,397,662	3,798,319	259,756	3,714,998	96,627,550
1940	6,575,176	31,474,492	38,049,668	3,736,394	8,975,257	23,727,560	4,101,369	2,526,859	4,318,325	3,778,363	308,890	4,659,256	94,181,941
1941	11,199,317	56,217,601	67,416,918	12,590,958	18,091,873	19,397,887	3,503,718	2,997,114	4,882,544	3,711,029	547,617	5,659,466	138,684,157
1942	13,673,968	48,300,209	61,974,177	12,162,451	15,509,964	30,742,493	3,693,082	3,598,703	7,347,330	3,791,058	1,755,065	4,893,094	144,996,947
1943	5,110,847	57,824,267	62,935,114	11,104,570	14,352,359	31,430,189	5,271,203	2,821,556	5,360,647	2,802,420	1,194,483	4,334,350	141,188,792
1944	5,187,136	51,196,140	56,383,276	14,819,803	15,225,919	40,836,117	7,033,997	2,283,429	4,854,799	3,820,612	1,361,458	6,983,036	152,914,237
1945	7,942,102	44,644,303	52,586,405	12,077,201	15,346,472	47,407,451	4,046,691	2,029,953	1,918,633	7,391,098	883,[illegible]	9,669,714	152,800,571
1946	17,003,459	53,157,194	70,160,653	20,275,590	19,895,649	59,135,823	7,575,291	5,249,272	8,428,735	11,145,047	4,720,119	21,770,334	227,629,455
1947	31,969,134	88,669,542	120,638,676	28,310,674	16,538,375	90,609,175	15,018,633	4,259,485	8,192,004	8,642,235	2,705,391	16,308,742	310,678,920
1948	24,008,466	96,528,730	120,537,196	29,359,114	21,892,893	112,612,296	9,850,834	4,777,531	7,791,313	8,329,649	4,846,494	18,521,357	335,181,479
1949	22,167,812	81,263,168	103,430,980	21,051,675	21,334,825	97,710,325	6,848,930	6,525,207	11,203,325	8,779,018	3,490,885	15,128,735	295,503,905
1950	27,187,060	82,354,118	109,541,178	21,209,033	26,345,609	112,830,094	7,491,816	7,096,235	12,773,346	10,839,889	3,121,269	20,086,878	331,335,347
1951	29,388,514	79,237,355	108,625,869	14,635,352	19,851,806	99,046,206	6,259,222	5,931,276	12,187,049	11,773,909	3,586,558	19,313,048	301,210,295
1952	21,906,773	76,357,016	98,263,789	21,502,970	5,655,463	113,034,510	11,362,697	7,047,441	12,998,814	12,209,558	2,087,019	21,666,937	305,829,193
1953	24,067,839	58,172,629	82,240,468	16,954,119	8,314,304	126,257,608	5,038,[illegible]	6,759,309	18,946,622	12,629,803	2,898,016	21,034,413	306,873,674
1954	28,915,972	63,339,170	92,255,142	18,152,815	12,[illegible]	142,149,816	2,508,71[illegible]	5,829,378	13,691,253	12,301,043	3,699,293	21,840,327	331,01[illegible]
1955	24,507,762	56,848,[illegible]	81,356,31[illegible]	9,333,350	12,444,322	125,259,364	3,333,979	7,003,967	13,562,310	12,0[illegible],326	2,190,614	31,022,192	303,563,991
1956	15,523,868	[illegible]	93,472,148	16,749,794	9,[illegible],082	140,338,342	[illegible],434,860	6,222,329	15,800,229	13,619,064	2,738,587	43,095,428	347,[illegible],463
1957	23,245,194	62,564,386	85,809,580	14,715,243	7,064,975	135,906,903	7,403,682	7,003,171	13,005,132	13,316,654	3,104,696	47,430,826	334,766,072

ASPECTS
Of 1959

The Certainty of Change

● Pacific fisheries enter 1959 with the certainty of change.

Alaska, source of America's richest coastal fisheries since salmon canning began, in 1959 enters into full statehood and the certainty of exercising full authority over those fisheries.

Perhaps even before Alaska attains that control, the salmon traps which have caught much of Alaska's salmon for generations will be driven from her waters.

Mounting intensity of high seas fishing pressure by the Japanese threatens to close all American fishing on Bristol Bay in 1959.

Elimination of the traps in Alaska, economic forces in tuna fishing, chemical and technological developments in synthetic fibers, combine to make it sure that 1959, and the years beyond, will see sweeping changes in fishing gear.

Elimination in 1959 of the salmon traps which for years have been anathema to the great majority of Alaskans is promised by Secretary of the Interior Seaton; but his efforts to carry out his promise doubtless will be attacked in the federal courts.

That Alaska will secure full authority over its fisheries in 1959 seems improbable.

The law creating the new state requires that transfer of authority over fisheries from the Department of the Interior to the State of Alaska will come on the first day of the first calendar year following certification by the Secretary of the Interior that 90 full legislative days have passed in Alaska and that the legislature has made adequate provision for the conservation, administration and management of its fisheries resources. Thus it would appear that, unless Alaskans successfully attack this aspect of the law in the federal courts, control of the fisheries cannot pass to the new state before 1960, and possibly not for a year or more thereafter.

When authority over the Alaska fisheries goes into the hands of the state it is a foregone conclusion that new policies of resource management will be undertaken.

Certain it is that, if they have not been eliminated before, salmon traps will disappear from the Alaska coastline immediately upon such transfer of authority.

What of Enforcement?

● Alaska territorial fishery authorities for years have been critical of the philosophy and methods of the federal fisheries service in the management of the Alaska resource. That different methods will be employed and different philosophies invoked is not to be doubted. It appears their success will depend more upon the degree of enforcement than upon the character of the regulations themselves.

To enforce fishery laws along the coast of Alaska is a task of the utmost difficulty, accentuated and sharpened by the elimination of the traps, with their essential resident characteristic. While many traps have fished during closed seasons and closed periods, by their very nature they had to do their fishing in a known location. With all future fishing in Alaska certain to be carried by means of mobile gear, with its inherent ability to move from place to place along the tortuous coast-line, the problem of enforcing regulations, no matter what their kind and character, becomes a monumental task.

Other aspects of state control over the Alaska fisheries will concern the state's policy toward non-resident fishermen, taxation, and policy with respect to technological developments which may eventually result in the diversion of fish for packing in concentrated operations elsewhere. Alaska officials, and the electorate which makes and breaks them, will have a wondrous opportunity in 1959 and the years beyond to test their theories as to conservation of their fishery resource and the administration and management by which they believe that resource can be restored to the health it enjoyed in the years of its greatness.

Their efforts deserve full measure of cooperation from the industry which benefits from the use of the resource, and from the Alaskans who live in large degree upon the fish of their seas.

Upon their success or failure in the administration of the greatest resource of the new state will depend in large degree the economic and social future of that state.

What Basic Weakness Brought the Traps' Downfall?

● Passing of the salmon traps from Alaska, whether it comes about in 1959 or in the following years, deserves thoughtful scrutiny as the manifestation in its final form of a trend which has been building up for half a century or more.

When one studies the fate of the salmon trap objectively and with an open mind he arrives inescapably at the conclusion that salmon traps have been marked for destruction by the American people for one fundamental reason:

Their existence required the granting of a special and private right of fishery to a specific, and necessarily preferred, location. In order to be successful, a trap must be established in a spot where for various reasons of the configuration of the shoreline, or tides or currents, the fish pass consistently in their migration. The law which permits a trap also permits the trap to utilize a specific and desirable spot for fishing. When the trap occupies this premium location, other fishermen are excluded from its benefits.

Because there are relatively few such favored points, the great majority of fishermen are debarred from fishing in these areas, and so the traps for years have come under attack and condemnation in public opinion.

Charges against salmon traps on the grounds that they are wantonly destructive and inimical to conservation simply will not stand up under honest scrutiny. For many years the Bureau of Commercial Fisheries and its predecessor services have maintained there was no validity in the argument against salmon traps on conservation grounds, and that their elimination was a matter of economic, social, and political concern. Thus action against them was beyond the purview of the federal fishery authorities, whose concern was limited to conservation alone, and the management and administration of the resource to the end of its wise use and sustained yield.

Regardless of the indictments which may have been brought against it, the salmon trap's only fundamental fault was that it required and *enjoyed an exclusive right of fishery to a preferred location* from which it barred the fishing equipment of others.

It was this same fatal exclusive right of fishery which saw the fish wheels driven from the Columbia River a generation ago.

Set nets and reef nets are vulnerable on the same grounds — a fact which will hardly have escaped the recognition of the operators of these forms of gear, particularly the set netters of Bristol Bay and Cook Inlet, and the reef netters of Puget Sound.

● Passing of the salmon traps from Alaska, whether it comes in 1959 or later, will produce several significant changes, not only for the men who catch and pack the fish but also for those who supply them, and who buy the product.

To fill the productive gap left by elimination of the traps will require fishing vessels. Many will be built, and others will seek to enter the Alaska fisheries from elsewhere, probably on a seasonally temporary basis. Just how the state of Alaska will choose to handle this influx of non-resident vessels is one of the unanswered questions which will lend dramatic effect to the first years of the new statehood.

● The degree to which the new vessels will be seiners or gillnetters is another point of significance and deep concern to many men. It will erupt in sharp conflict between these two forms of gear as they strive for exclusive use of certain waters, a conflict in which the old foes of the salmon trap perhaps overlook the fact that in this exclusive character lay the traps most vulnerable weakness.

How many vessels? And what kind? and what size? and what power? and how many men will be required to catch the fish previously taken by the traps are matters on which few will agree, and questions to which there is no sure and positive answer. On these points only one conclusion can be considered sure: *the best fishermen will prosper and the poorer ones will fail.*

The Passing of the Traps— How Will It Affect Quality?

● Eventual passing of Alaska salmon traps raises a question of quality.

For many years important buyers in the canned salmon trade have manifested a preference for trap salmon from the areas where fishing by this means was permitted.

This preference was not often translated into higher price, but unquestionably played an important part in determining which fish sold first and in the largest volume. The man whose pack consisted almost wholly of trap-caught fish could expect to sell them first, while the canneries depending wholly on supplies of fish from seines faced the necessity of carrying their packs for longer months at constantly accumulating charges.

This preference was based on the knowledge that many of the traps were located near the sea, where fish in prime condition first began to enter the coastal waters en route to their spawning streams.

Secondly, by the very nature of a trap, the fish were kept alive until the moment when they were brailed into the tender for transport to the cannery. Thus they could be expected to reach the canning plant in better condition than seine fish.

From this it will be seen that the preference for trap fish on the part of the buyers was based on two fundamental factors: (1) belief that they usually were taken in their prime, and before any of the deteriorating influences had set in; and belief that they could be handled from the living state in the spiller of the trap to the cannery more rapidly and in better condition than seine-caught fish.

Recent years have seen marked progress in countering the second of these conditions. Tenders equipped with sea water chilling which could receive fish from the boats and immediately refrigerated for transport to the canneries have become commonplace in most Alaska fisheries. The packers generally have provided improved equipment for the collection and transport of salmon. Further progress will depend largely upon the fishermen themselves, the care which they are willing to exercise to protect the quality of their fish, the frequency of their deliveries and, something greatly to be desired, the installation on fishing boats themselves of sea water cooling, so the fresh caught fish can be protected by refrigeration from the moment they are reduced to capture.

The fishermen will say that, with the traps gone from the favored locations, it will be possible for seiners and gillnetters to take their catches in the same state of prime condition as have the traps. This is their answer to the contention that trap caught salmon are fundamentally of higher quality than those taken by means of nets in the same areas.

Economic Changes Influence Shifts in Fishing Gear

● Changing aspects of 1959 will unquestionably include developments in fishing gear beyond those directly associated with the impending elimination of salmon traps from Alaska.

These changes may be expected to affect gillnets as well as seines, and also the boats that fish them.

They will go even further and in the tuna industry perhaps will accelerate the trend which in 1958 saw the conversion of a number of important tuna clippers from live bait fishing to purse seine gear.

● Purse seiners in 1958 enjoyed the most remarkable prosperity in the tuna fishery which they have ever known and as result at least five and probably more clippers were converted into seiners or were in the process of such conversion as this 1959 Yearbook went to press.

The development is an economic one and founded on the fact of earnings, which in some cases in 1958 saw purse seine crews sharing as much as $20,000 for the year. That is, $20,000 per fisherman employed on one boat for its full year's fishing.

The trend toward seiners in the tuna industry has developed as result of the increasing cost of scouting for bait for live bait fishing, as well as of the vessels themselves. In the case of seiners, their efficiency has been broadly increased by the perfection of nets of synthetic fibers, and by the development of the power block as a means of handling these nets.

The San Pedro tuna vessels turning to purse seining, and those already engaged in that field of fishery, are now relying almost without exception upon the power block which a fellow San Pedran, Mario Puretic, invented a number of years ago, and which is being manufactured and marketed throughout the world by the Marine Construction and Design Company of Seattle. This device has proven admirably adapted to speeding and increasing the effectiveness of purse seining for salmon, herring, sardines, tuna, and in other oceans the menhaden of the Atlantic and the maasbankers and pilchards of South and Southwest Africa.

The Trend to Synthetic Nets

● In 1958 the great tuna seines with which the converted clippers were equipped, as well as those for many of the smaller vessels, were primarily made of nylon following the remarkable success of the net of this Du Pont material aboard the great seiner *Anthony M*, and the Momoi-made seine of Amilan nylon fiber employed by the converted *Sun King*.

Other nets built specially for these converted tuna clippers were variously of Dupont nylon and Amilan, the nylon manufactured by Toyo Rayon Company of Japan.

In 1959 there is evidence that the growing field of tuna seining will also see the introduction of several of the synthetic fiber blends, each with their peculiar characteristics and each designed to appeal to certain requirements of the fishermen. Thus there is in this blended field Nyac, the nylon and acetate blend produced by the Linen Thread Company of the United States; Saran-N, the blended fiber manufactured by Asahi-Dow of Japan, which utilizes the peculiar weight and properties of saran in combination with the great strength of nylon; and Marlon, the Momoi proprietary fiber utilizing a patented blend of nylon and vinyl fibers.

In the menhaden fisheries nets made of Manryo, a vinyl alcohol fiber exclusively manufactured in Japan by Kurashiki Rayon Company, its originator, is being employed to a remarkable degree, and is also finding much favor in the salmon fisheries of Alaska, Puget Sound, and British Columbia.

Gillnetting's Steady Growth Suffers Setbacks in 1957-58

● Gillnetting has made consistent gains at the expense of purse seining in some areas of the salmon fisheries. This trend, after being manifest for several years, received something of a setback in Puget Sound and British Columbia fisheries of both 1957 and 1958. In 1957 the average size of the salmon in the Puget Sound and British Columbia fisheries was unusually small, with the result that the gillnets lost many fish small enough to pass through their meshes. The following year, in 1958, gillnets of normal depth proved singularly ineffective in the American fishery for Fraser River sockeye, as the fish seemed to swim at greater depths than usual, passing below the leadline of the normal gillnet.

These circumstances, however, were recognized as resulting from the vagaries of the fish and were not counted as marking a permanent trend. Suppliers and other analysts of fishing gear developments are inclined to feel that the gillnet rather than the purse seine in the long run will prove the

ALASKA FROZEN FISH PACKS

YEAR	(Pounds)						YEAR
	Halibut	Salmon	Steelhead & Fillets	Sablefish	Miscellaneous	TOTAL	
1928	9,328,837	7,275,009	4,105	623,857	161,332	17,393,140	1928
1929	11,789,477	5,819,643	3,000	514,405	268,857	18,395,382	1929
1930	11,859,772	6,217,498	...	511,249	168,870	18,757,389	1930
1931	6,641,793	5,071,593	4,431	254,856	594,392	12,567,065	1931
1932	2,332,728	5,058,857	1,275	51,284	61,461	7,505,605	1932
1933	5,851,556	4,102,999	3,747	91,066	93,841	10,143,209	1933
1934	6,133,142	5,534,916	27,272	167,725	155,453	12,018,508	1934
1935	5,021,708	4,662,272	7,600	633,412	221,066	10,546,058	1935
1936	7,287,861	5,284,030	24,091	834,140	88,705	13,518,827	1936
1937	7,465,551	5,794,466	2,500	1,924,817	305,149	15,492,483	1937
1938	6,904,640	7,918,897	4,274	773,787	68,305	15,669,903	1938
1939	6,389,488	4,783,751	2,465	1,525,600	280,794	12,982,098	1939
1940	8,310,553	6,304,064	11,413	1,824,532	682,721	17,133,283	1940
1941	7,564,940	6,119,050	...	1,720,977	924,420	16,329,387	1941
1942	8,720,056	7,908,717	8,606	4,851,974	361,554	21,850,907	1942
1943	11,068,724	9,114,694	...	3,986,438	825,505	24,995,361	1943
1944	19,214,203	10,753,715	...	5,413,503	1,892,846	37,274,267	1944
1945	19,353,649	13,374,086	...	5,955,388	3,396,849	42,079,972	1945
1946	14,966,616	12,036,956	30,000	4,519,989	2,075,530	33,629,091	1946
1947	20,638,301	10,197,755	4,597	886,535	383,473	32,110,661	1947
1948	26,020,134	9,582,232	165,370	5,065,056	5,290	40,838,082	1948
1949	20,914,221	12,222,337	1,309	3,772,851	271,901	37,182,619	1949
1950	25,625,940	8,467,426	5,113	566,965	98,409	34,763,853	1950
1951	19,577,948	8,780,110	6,988	3,241,556	820,473	32,427,075	1951
1952	17,341,747	5,327,279	8,977	988,520	205,955	23,872,478	1952
1953	19,727,501	6,399,247	46,675	2,599,418	730,465	29,503,306	1953
1954	20,987,363	9,341,468	57,468	3,072,158	203,706	33,662,163	1954
1955	16,597,154	4,459,926	328,613	2,389,290	102,615	23,877,598	1955
1956	21,718,748	8,603,212	3,818	1,919,865	77,455	32,323,098	1956
1957	13,710,555	6,890,597	266,483	2,803,496	19,744	23,690,875	1957
1958	18,259,707	5,879,030	3,600	1,341,179	150,000	25,633,516	1958

NOTE:- Since 1942 Steelheads have been combined with Salmon. Figures given in this column for years after 1942 cover the quantities of frozen fillets of all reported. Data in this table based on individual reports of packers and custom cold storages to this journal. Data are for food fish only and do not include fish frozen for bait or for animal food, nor are fish frozen for subsequent canning included. Halibut flitches are reported under fillets.

ASPECTS OF 1959

AMERICAN CANNED FISH VALUES BY AREAS

YEAR	PACIFIC COAST						States Other than Pacific TOTAL	United States TOTAL
	Alaska	California	Oregon	Washington	TOTAL	% of Nat'l. Total		
1935	$26,072,966	$25,252,965	$ 2,851,967	$ 4,955,117	$ 59,133,035	78.8	$15,860,684	$ 74,993,719
1936	45,078,945	26,296,129	2,972,959	3,582,880	77,930,913	82.3	16,726,956	94,657,869
1937	45,041,499	30,741,773	4,163,681	5,276,928	85,223,881	81.2	19,713,750	104,937,631
1938	37,059,151	25,232,688	3,638,815	3,762,575	69,693,229	83.5	13,752,660	83,445,889
1939	34,775,988	31,639,354	4,622,664	5,192,077	76,230,083	79.0	20,228,510	96,458,593
1940	31,836,480	36,949,395	5,294,488	3,987,170	78,067,533	82.9	16,046,513	94,114,046
1941	56,453,007	39,830,950	7,704,434	7,130,960	111,119,351	80.1	27,564,806	138,684,157
1942	48,874,227	44,506,354	12,375,323	8,319,559	114,075,463	78.8	30,567,784	144,643,247
1943	58,479,130	46,842,918	7,242,950	2,975,728	115,540,726	81.8	25,615,584	141,156,310
1944	52,072,335	53,653,337	11,720,608	3,706,586	121,152,866	79.5	31,158,318	152,311,184
1945	45,491,662	60,219,179	12,543,519	7,326,616	125,580,976	82.0	27,219,595	152,800,571
1946	55,081,941	85,457,037	12,164,093	18,202,350	170,905,421	75.1	56,724,033	227,629,454
1947	89,135,362	116,493,682	20,626,850	24,949,347	251,205,241	80.9	59,475,179	310,680,420
1948	97,657,187	137,876,592	21,926,969	18,497,700	275,958,448	82.1	60,223,031	336,181,479
1949	82,225,067	119,497,465	13,683,517	23,009,231	238,415,280	80.6	57,088,625	295,503,905
1950	82,828,503	140,251,694	19,250,557	25,370,759	267,701,513	81.3	62,661,340	330,362,853
1951	80,748,052	122,572,382	15,454,209	27,312,377	246,087,020	81.7	55,123,275	301,210,295
1952	77,586,903	124,582,452*	14,284,187	21,362,466	237,816,008	77.7	68,013,190	305,829,198
1953	59,477,956	132,298,470	15,629,708	24,357,778	234,363,912*	76.5	72,515,896	306,873,674
1954	65,107,077	145,247,976	18,386,407**	32,524,805	261,266,265	78.9	69,760,245	331,026,510
1955	58,289,037	133,649,363	22,450,859***	25,671,266	240,060,525	79.1	63,514,935	303,575,460
1956	78,758,792	143,145,330	30,200,680§	18,452,364	270,557,366	77.8	77,009,097	347,566,463
1957	64,634,485	136,612,240	29,964,077§	27,576,185	258,786,987	77.3	75,979,085	334,766,072

*Includes Hawaii. **Includes Hawaii and Samoa. ***Includes Samoa, Hawaii, Puerto Rico.
§Includes Samoa, Hawaii, Puerto Rico and a minor quantity canned in Maryland.

prime beneficiary of the elimination of salmon traps from the fisheries of Alaska.

● In the field of gillnet materials nylon by 1959 had emerged as virtually unchallenged. As the year opened, however, there appear in a specialized "Mewlon" fiber produced by Dai Nippon Spinning Company of Japan a possible rival for nylon. This improved form of the already widely used "Mewlon" is said to exceed nylon in tensile strength and to have certain other advantages of specific gravity and reduced elongation which may enable it to compete with nylon in the field of gillnet twine. Quantities of this new fiber available at time of writing are still small and are thus far available only for technical testing and not for commercial use on a general scale.

● Synthetic fibers are advancing in auxiliary aspects of fishing nets as well as in the webbing itself. Thus, ropes made of Manryo, polyethylene, Saran, and other synthetic fibers are finding wide use in the hanging of nets. Polyethylene, which actually floats, is finding favor for cork lines, where flotatation is a primary requisite.

On the other hand, the leadline of a net necessarily has a sinking function, and for this use rope manufactured of Saran fiber, the heaviest of all the synthetic or natural fibers employed for such purposes, is finding special application in the leadlines of nets.

Saran also is being employed by some fishermen as a heavy strip along the bottom edge of their seines, where the added weight of netting assists the leadline in maintaining the proper configuration of the seine in operation.

Japan's Ocean Fishing Policy Will Affect 1959 Powerfully

● Japan's decision as to the intensity of its high seas fishery in the areas where Red salmon of North American origin intermingle with salmon of Asian origin can be expected to have a profound effect upon American fishing operations in Western Alaska, upon American public opinion, and conceivably upon markets for the salmon caught there.

In 1958 the Japanese fishing industry voluntarily restricted its fishing activities in the vicinity of the Provisional Abstention Line at 175° West Longitude. This action was taken by the fishery operators, with the knowledge, but not at the insistence or initiative of the Japanese government.

Results of this action were two:

1. The Red salmon run to the river systems falling into Bristol Bay, Alaska was relieved of the destructive high seas fishing pressure to which it had been subjected in former years; permitting a moderate spawning escapement, but only by limiting American fishermen to two days work per week.

2. Notwithstanding this reduced pressure on the Red salmon runs of American origin, the Japanese high seas fleet was able to take the full catch quota permitted by the government of Japan.

American requests for continued reduction of fishing intensity in the Area of Intermingling in 1959 had produced no results when that year opened, and the U. S. Bureau of Commercial Fisheries had been forced to warn Alaska residents and fishery operators that it would be necessary to close Bristol Bay to all American fishing in 1959 if the high seas fishing pressure was continued on the basis of the years prior to 1958. This drastic step would be required in order to make it possible for the Bureau to carry out its legal responsibility to provide spawning escapement adequate for maintenance of the resource.

American observers were inclined to believe such drastic action would have unfortunate effect upon American public opinion, and might impair the market for Japanese canned salmon, if not other products, in the United States.

● An aspect of 1959 which is considered by some analysts as responsible for the unwillingness of the Government of Japan to provide for reduced fishing in the Area of Intermingling is the improved prospect for marketing Japanese canned salmon in the United Kingdom.

Action of Great Britain in September, 1958, in freeing its salmon trade from exchange restrictions opened important market opportunities to the Japanese. In this market they will compete primarily with Canada, but the broader opportunity for sales to Britain are expected to relieve the Japanese salmon sellers from the necessity of relying upon the United States as the primary outlet for their Red salmon.

● Newly come into full statehood, Alaska could be expected to react violently to closure of its most important fishery because of fishing pressure in the high seas, where its own citizens may not legally compete with the fishermen of other nations.

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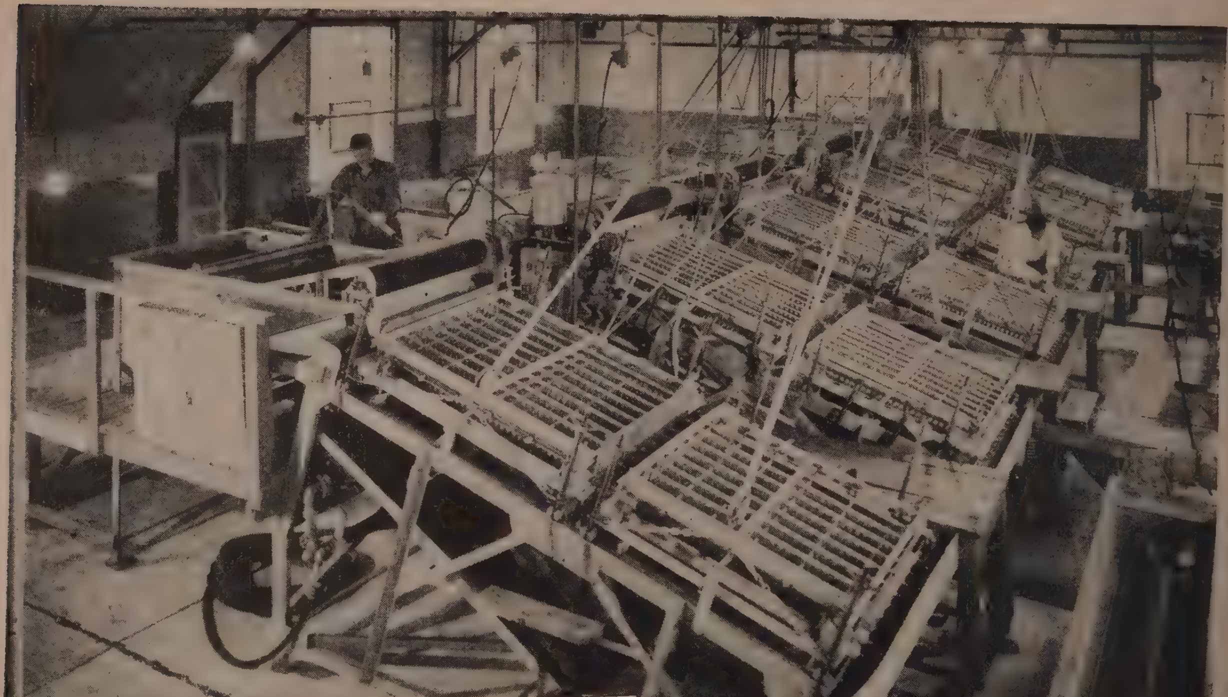

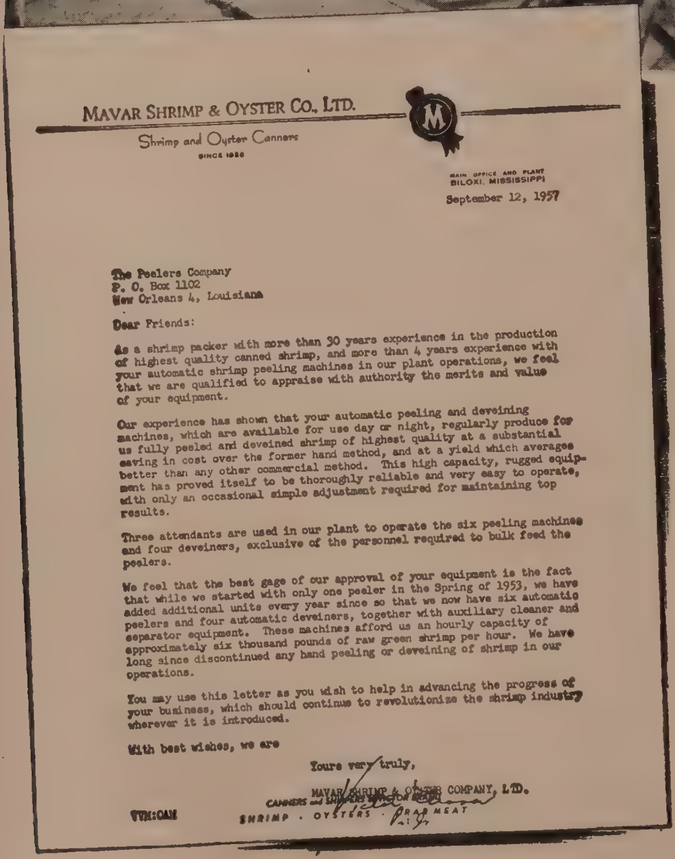

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We feel that the best gage of our approval of your equipment is the fact that while we started with only one peeler in the Spring of 1953, we have added additional units every year since so that we now have six automatic peelers and four automatic deveiners, together with auxiliary cleaner and separator equipment. These machines afford us an hourly capacity of approximately six thousand pounds of raw green shrimp per hour. We have long since discontinued any hand peeling or deveining of shrimp in our operations.

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From $0 to $2.25 Million In Two Years

● Pacific shrimp canning shot up from scratch in the spring of 1957 to a production of 142,000 cases, valued at $2,276,000 in 1958.

In that time the business had spread from the first canning operation at Westport, Wash., at the entrance to Grays Harbor, south into California and north into Alaska, running as far west as Kodiak Island.

Such spectacular growth produced growing pains, but Pacific Ocean Pink shrimp canning, based on mechanical picking of the tiny shrimp found in abundance along a vast stretch of the Pacific Coast from Southern California to the Shumagin Islands off far western Alaska, appears to bear a rich potential.

● Although Pacific Ocean Pink shrimp canning in 1958 produced 142,267 cases, counted on the basis of 48 halves, in 1958, the current year is counted upon by the industry to dwarf that figure.

This expectation is based on the fact that several noteworthy installations in Alaska are only just getting into production, and were not able to make significant contribution to 1958 production.

Research fishing tends to indicate that the greatest abundance of shrimp is found on the banks and in the bays of the Central Alaska coast. There the fishery is expected to prove of special economic significance, as it offers an attractive production opportunity for the fishermen in the interval between salmon seasons.

To provide means for Alaska fishermen to avail themselves of this opportunity, several of the salmon canning companies are entering the shrimp business, their installations giving the resident fishermen of their areas a chance to use their vessels and enhance their earnings through a greater portion of the year.

● Marketwise, Pacific Ocean Pinks have caught-on quite successfully. While it is true that they came on the market at a distinctly favorable time, when the Gulf of Mexico canned shrimp pack was short and demand for canned shrimp good, the tiny, tender pink tails proved a familiar friend to the western consumer, and an attractive and exotic item to the rest of the United States, where shrimp generally are counted as large, white, somewhat tough and coarse.

● Washington and Oregon shrimp production slumped sharply in the fall of 1958 after its brave beginnings in the spring.

This decline, following the strong up-swing, was somewhat disconcerting to the industry, and stimulated Alaskan development. However, experienced fishermen counted the condition as one which could not in any way be blamed upon depletion, and for which further fishing and exploration would reveal a ready solution.

Pacific Shrimp Offered In Three Size Grades

● Pacific canned shrimp, whose reputation was made on the tiny Ocean Pink product, early in 1959 was expanding to include the larger "Side Stripe" and "Coon Stripe" varieties found in Alaska, notably in the waters of Cook Inlet and the vicinity of Kodiak Island. At presstime the sizes and prices were:

"Tiny," consisting wholly of Ocean Pinks, and counting above 17 per

1958 Pacific Canned Shrimp

COMPANY	Cannery Location	Cases, 48 Halves
E. H. Bendiksen Company	South Bend, Washington	5,500
Crown Packers, Inc.	Hoquiam, Washington	20,500
Harbor Sea Foods Company	Bay Center, Washington	14,300
Harbor Sea Foods Company	Wrangell, Alaska	20,000
Kaakinen Fish Company	Westport, Washington	33,296
Pacific Pearl Frozen Foods	Aberdeen, Washington	5,671
Pacific Shrimp, Inc.	Warrenton, Oregon	5,500
Seaside Clam Company	Warrenton, Oregon	10,000
Wm. Smith Company	Wrangell, Alaska	25,000
Whitney & Company	Seldovia, Alaska	2,500
	TOTAL Pacific Shrimp, CASES	142,267
	TOTAL Pacific Shrimp, VALUE	$ 2,276,272

PACIFIC SHRIMP, Previous Season	Value	Cases
1957 - Alaska	$ 164,437	16,444
Washington & Oregon	512,082	32,794
TOTALS, 1957	$ 676,519	49,238

ounce, is priced at $8 per case of 24 cans, 4½-oz. size.

"Small," at $9, and counting 10 to 17 per ounce; and "Medium" at $10, with 6 to 9 per ounce, are packed from the "Side Stripe" and "Coon Stripe" varieties. They are said to have something of a "lobster" flavor.

While the industry is still in the process of development and exploration of the Alaska shrimping grounds, it is believed that as the fishermen become more familiar with the area these larger varieties may constitute a considerable percentage of the canned shrimp pack of the Alaska industry.

● Commercial fishing for shrimp began in 1915 in Southeastern Alaska, and although expansion of the industry was slow, four plants were in existence by 1921. Production of shrimp rose steadily and in 1925 reached 520,000 pounds. In the years that followed, some fluctuations in landings took place, owing to the depression and World War II, but a production high was again reached in the 1948 to 1950 period. Shrimp production in Southeastern Alaska in 1957 was 2,350,449 pounds. This compares favorably with the good catch of 3,031,598 pounds in 1956 and is well above the 1,777,122 pounds taken in 1955.

With the general decline in abundance of Gulf of Mexico shrimp, it is expected that the demand for the Alaskan product will greatly increase and production will climb to a new plateau. The recent development of machine pickers will materially affect production and landings in Alaska. The shrimp fishing is carried out primarily with beam trawls, although a small portion of the catch is taken with pots.

The major shrimp fishery is still concentrated in Southeastern Alaska, but operations in the Gulf of Alaska are expanding rapidly. In 1958 exploratory efforts of the Fish and Wildlife Service Vessel *John N. Cobb* in lower Cook Inlet and Kodiak Island resulted in excellent catches. In the vicinity of Nuka Passage and Port Dick, catches of 1,560 and 1,440 pounds per hour were taken. Half of these landings were pink shrimp. In Kodiak waters, Marmot and Izhut Bay had catches of 2,600 and 2,800 pounds per hour, while Alitak produced catches of about 1,800 pounds per hour.

● While the major developments in shrimp canning have been in Oregon, Washington, and particularly in the new State of Alaska, California is the state where the modern phase of utilization of the Pacific shrimp resource had it beginnings.

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DIRECTION FINDERS
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Conditions of supply and markets in California tend to render the business there one concerned primarily with the fresh shrimp market and less with frozen or canned shrimp than the operations farther north.

California shrimp meat production currently centers in the vicinity of Avila and Morro Bay; and again farther north, along the coast from San Francisco Bay north to Humboldt Bay, with primary processing centers at Bodega Bay and Eureka.

Actually, San Francisco Bay has been a source of shrimp since Gold Rush days, the early fishery having been conducted there by Chinese fishermen working small trawls from sail boats.

1958-San Pedro-Santa Monica Area Fresh Fish Landings-1958

(Pounds)

SPECIES	Nov. '57	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	Oct.	TOTAL
FISH:													
Anchovy	139,820	185,500	206,050	85,550	46,077	94,150	156,067	199,155	141,418	106,203	323,230	310,750	1,993,970
Barracuda	...	7,791	35,969	17,875	18,726	27,522	50,618	19,865	51,837	49,094	8,167	170	287,634
Cabrilla	...	...	200	...	...	...	...	4,000	...	30	...	...	4,230
Grouper	17,965	66,981	95,301	13,039	9,930	2,263	3,240	9,692	130	986	137	8,052	227,716
California Halibut	18	396	7,157	1,341	5,075	10,211	4,219	1,361	8,760	1,395	1,748	2,961	44,642
Jack Mackerel	67,175	1,260	3,590	1,185	52,941	31,195	13,323	20,540	1,475	51,220	66,465	109,947	420,316
Kingfish	3,480	27,256	13,052	1,906	18,014	20,774	18,033	20,761	8,250	4,570	20,072	3,975	160,143
Mackerel	208,847	132,555	190,803	106,663	130,383	134,685	200,926	133,115	105,444	97,169	143,077	206,230	1,789,897
Perch	15	830	...	182	1,372	1,713	1,656	127	...	...	201	77	6,173
Pilchard	41,800	49,295	74,070	149,260	132,555	182,280	242,835	192,610	95,425	33,850	207,538	151,925	1,553,443
Pompano	675	3,034	1,413	2,631	10,193	4,178	5,210	710	125	110	76	60	28,415
Rock Bass	...	...	155	..	...	...	...	...	100	...	...	...	255
Rockfish	15,209	25,947	20,459	19,010	17,309	25,573	12,992	11,477	11,016	15,000	14,154	23,501	211,647
Sand Dabs	...	1,034	97	777	975	619	435	1,238	200	89	...	...	5,464
Sculpin	129	31	...	102	...	919	4,360	9,785	8,762	5,206	1,838	3	31,135
Sea Bass: Black	25,290	42,562	3,326	100	4,046	187	2,194	20,582	34,610	4,503	384	24,908	162,692
White	36,796	25,220	21,337	27,219	38,174	20,236	13,190	44,514	366,467	382,607	24,614	42,719	1,043,093
Shark	4,408	3,828	1,112	461	2,146	3,093	3,755	5,683	4,584	2,573	6,852	4,258	42,753
Sheepshead	200	207	155	30	...	16	120	283	130	...	...	26	1,167
Sole (All Varieties)	...	...	...	...	...	410	197	260	235	...	...	...	1,102
Skate	...	...	217	...	200	1,646	77	220	460	...	...	...	2,820
Smelt	25	2,885	7,872	760	11,228	2,437	461	...	1,010	2,288	3,375	395	32,736
Swordfish	200	...	...	..	...	...	...	15,970	53,092	32,763	19,052	336	121,413
Tuna: Albacore	6,545	3,589	2,080	...	...	...	...	770	1,886	535	6,928	3,599	25,932
Bonito	3,521	4,725	1,772	588	4,630	10,548	7,995	888	16,748	12,504	4,526	1,033	69,478
Bluefin	...	4,761	...	132,421	7,200	37,911	47,757	46,364	64,451	73,186	101,528	31,249	546,828
Yellowfin	7,624	3,453	39,663	2,538	10,642	13,159	...	33,021	...	...	...	23,638	133,738
Yellowtail	6,328	7,968	3,667	1,916	7,744	3,763	9,937	6,728	6,895	4,016	4,106	1,022	64,090
SHELL FISH:													
Octopus	...	30	...	...	...	...	...	16	42	37	24	...	149
Spiny Lobster	42,354	26,544	16,854	8,543	4,382	...	...	...	...	...	...	59,300	157,977
Squid	17,500	49,760	363,485	93,725	93,905	84,025	4,950	...	...	...	...	...	707,350
Abalone	...	...	...	...	...	...	...	...	...	...	9,900	1,325	11,225
Miscellaneous Fish	13,988	12,526	3,134	311	1,722	2,000	7,852	3,697	7,386	3,394	486	869	57,365
TOTAL	659 912	689,968	1,112,990	668,133	629,569	715,513	812,399	803,432	990,938	883,328	968,478	1,012,328	9,946,988

1958 -EUREKA AREA FRESH FISH LANDINGS-1958

(Pounds)

SPECIES	Nov. '57	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	Oct.	TOTAL
Flounder	1,100	4 600	...	3,600	3,800	1,800	1,300	300	700	400	13,600	3,200	34,400
Halibut	...	...	...	...	...	..	11,900	9,400	...	..	3,000	1,800	26,100
Herring	...	700	16,300	3,300	...	. .	...		...	...	...	..	20,300
Lingcod	5,100	5,000	2,700	4,400	3,100	10,600	10,900	18,000	20,500	26,400	43,400	19,200	169,300
Perch	3,400	1,500	1,500	800	6,100	6,100	6,400	7,300	...	2,800	3,800	3,300	43,000
Rockfish	46,000	21,200	45,900	104,600	345,000	77,300	81,100	84,900	84,100	77,000	139,400	140,700	1,247,200
Sablefish	16,400	7,100	1,500	100	1,200	8,300	6,700	21,900	3,100	14,700	32,000	41,100	154,100
Sand Dabs	2,000	...	300	200	...	...	1,000	2,200	2,500	...	..	1,000	9,200
Sole: Arrowtooth	12,200	14,900	5,800	.	1,000	19,100	27 800	48,800	47,000	57,200	86,600	49 700	370,100
Dover	261,000	64,000	4,100	200	7,300	134,500	317,400	360 200	194,000	268,000	343,000	192,500	2,146,200
English	91,300	111,200	23,100	34,600	89,200	111,000	177,300	63,600	39,000	46,300	221,600	176,900	1,185,100
Petrale	111,400	112,000	152,100	20,500	25,500	29,400	39,900	97,600	69,000	100,900	193,100	62,000	1,013,400
Rex	17,000	20,200	26,400	11,400	22,900	16,900	29,600	21,000	15,000	20,800	33,100	27,200	261,500
Sand	1,400	2,500	1,500	1,700	3 700	1,900	3,100	200	1,000	300	1,700	1,200	20,200
Salmon	..	.		. .	...	100	110,200	38,700	23,000	14,700	8,700	.	195,400
Tuna	13,200	.	. .	...	...	...	...	.	..	2,000	86,500	3,000	104,700
Whitebait		..	...	...	..	...	6,400	17,300	36,000	9,900	...	...	69,600
Miscellaneous	18,000	34,400	27,300	9,900	13,200	43,000	255,100	97,400	70,500	32,100	123,600	114,100	838,600
Shrimp	.	...	.	...	...	...	25,800	111,900	27,200	76,000	102,200	...	343,100
Crabs	66,800	142,600	525,000	657,400	856,500	323,100	340,700	50,700	13,500	...	. .	..	2,976,300
Oysters	181,545	148,951	108 114	106,084	102,909	74,593	31,098	38,096	17,386	...	..	78,435	887,211
TOTAL	847,845	690,851	941,614	958,784	1,481,409	857,693	1,483,698	1,089,496	663,486	749,500	1,435,300	915,335	12,115,011

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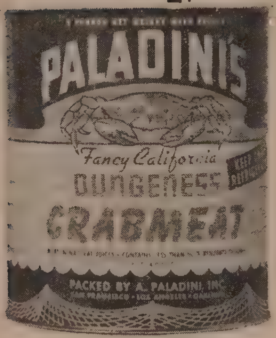
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Pacific Shrimping Sweeps Northward into Alaskan Waters

- Sweep of North Pacific shrimp fishing and canning operations into the Gulf of Alaska was one of the significant movements in the Pacific fisheries in 1958.

So rapid has been the growth, so fast the movement, and so brief the history, that assessment of the ultimate importance of the development cannot yet be undertaken. Sufficient at this time to note that large, qualified, conservative and successful operators in 1958 found the field sufficiently promising to attract their participation.

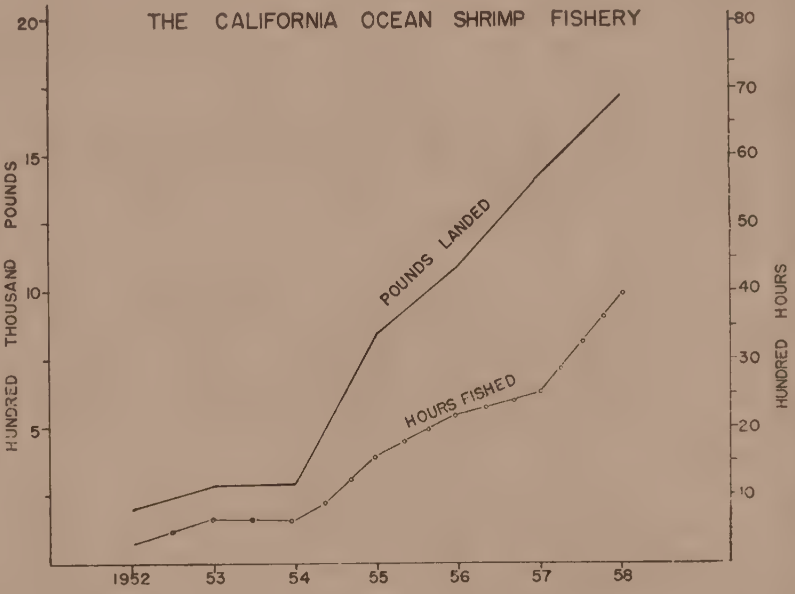
- At the same time, operations out of Washington ports, where the rapid growth of 1957 had centered, check sharply in the early fall of 1958, with fishing for the Ocean Pink shrimp so poor that some of the equipment installed there only a few months was shifted to new operations in Alaska.

Under such conditions assessment of the ultimate extent and importance of the business is unwarranted, and the risky character of the enterprise, for all its great promise, is underscored.

- Ocean Pink shrimp development started in California several years ago in a small way, but did not erupt into industrial character until the spring of 1957, when Ed Kaakinen of the Kaakinen Fish Co. installed a Peelers machine at his cannery at Westport, Wash. Previous attempts to utilize the resource commercially in the Pacific Northwest had failed to reach economic stature because of the high cost of picking the tiny Ocean Pinks by hand. The mechanical devices developed on the Gulf of Mexico proved admirably suited to the small sizes, and canning of the shrimp became an almost immediate success, partially due in fact to the scarcity of canned shrimp in the South.

Production of canned Ocean Pink shrimp in the Pacific Northwest and Alaska during 1957, with at least two other packers joining Kaakinen, reached above 45,000 cases of 48 halves.

- By early 1958 the number of active canneries in the Pacific Northwest and Alaska had grown to include: Kaakinen Fish Co., Westport, Wash.; Pacific Shrimp, Inc., Warrenton, Ore.; Seaside Clam Co., Warrenton, Ore.; Harbor Sea Foods, Inc., Bay Center, Wash.; Harbor Sea Foods Co., Wrangell, Alaska; William F. Smith, Wrangell, Alaska; Crown Sea Foods, Inc., Hoquiam, Wash.; E. H. Bendiksen, South Bend, Wash.; Pacific Pearl Frozen Foods, Inc., Sutterlin Division, Aberdeen, Wash.



Production during the spring months of 1958 was heavy and by mid-year the catch had reached about 5,000,000 lbs. landed in Washington and at least 2,000,000 lbs. in Oregon.

Unhappily, resumption of fishing in the fall, after the salmon and Albacore seasons had begun to decline, failed to produce comparable catches and several of the canneries were unable to secure adequate supplies of shrimp.

- Alaska surveys by the U. S. Research vessel *John N. Cobb* had shown remarkable abundance of Ocean Pinks, sweetened by some big Side Stripes, in the waters of Central Alaska west to the Shumagin Islands and beyond.

The abundance there, plus the desire of the cannery operators to provide attractive markets for their fishermen during the months when salmon are not available, resulted in a quick shift in interest.

Result was that before the end of 1958 three additional plants were in operation in Alaska and a third was announced for spring of 1959.

Thus William F. Smith, in addition to his Wrangell operation, purchased the Tenakee property of the Superior Packing Co. and installed shrimp canning equipment.

Whitney & Co. added shrimp canning facilities to its integrated operation at Seldovia, where it already was equipped with salmon cannery, King crab processing, halibut and salmon freezing, general cold storage and offal reduction.

King Crab, Inc., installed two machines at Kodiak, and was in operation in a limited way during the winter.

Alaska Packers Association, one of the largest salmon canners, and an affiliate of the California Packing Cor-

1958-Coastwise Receipts at Seattle from British Columbia

SPECIES		Dec '57	Jan '58	Feb	March	April	May	June	July	August	Sept.	Oct	Nov	TOTAL
Fillets: Sole	frozen	19,900	70,900	58,000	55,400	62,600	80,100	46,500	18,600	45,500	67,600	67,700	55,400	648,200
" "	fresh	...	300	1,300	...	13,000	5,100	12,900	9,000	300	...	...	...	42,900
" Other	fresh	...	9,600	24,700	29,500	21,600	37,500	17,100	15,200	7,700	8,500	18,600	1,800	191,800
" "	frozen	191,300	217,100	328,000	281,500	95,400	103,500	114,200	148,200	212,000	205,300	306,000	149,400	2,351,900
Halibut	fresh	...	...	...	...	...	108,900	150,000	48,900	31,000	31,600	26,500	...	396,900
"	frozen	79,100	200,900	559,300	596,500	330,100	258,400	226,700	367,300	312,800	165,500	180,200	102,900	3,379,700
Herring	frozen	13,500	6,800	2,700	25,100	53,100	9,000	19,700	1,700	17,400	70,000	...	...	219,000
Lingcod	fresh	...	...	...	54,900	63,600	46,100	28,300	...	5,500	3,400	22,500	19,000	243,300
"	frozen	...	...	2,000	...	...	...	...	...	...	...	...	...	2,000
Salmon: Chinook	fresh	...	...	...	...	36,700	213,600	650,300	462,600	384,100	162,200	45,000	1,100	1,955,600
" "	frozen	154,000	226,400	81,100	...	53,200	126,300	133,600	70,000	100,100	73,000	66,700	4,800	1,089,200
" Chum	fresh	...	...	...	...	...	...	...	29,700	616,700	840,200	2,986,500	484,800	4,957,900
" "	frozen	127,200	2,500	15,100	...	...	...	...	...	241,700	80,000	220,500	102,200	789,200
" Silver	fresh	...	...	...	...	...	...	4,000	474,800	455,600	51,000	...	...	985,400
" "	frozen	...	49,100	138,500	...	5,300	...	...	65,900	4,200	30,000	253,800	49,200	596,000
" Unclassified	fresh	...	...	...	...	...	...	...	...	125,800	15,100	102,600	600	244,100
" "	frozen	74,100	102,100	64,100	144,900	28,700	47,700	101,000	392,000	280,500	372,600	387,100	84,400	2,079,200
Smelt	frozen	1,200	8,300	...	...	1,500	4,300	...	...	...	...	4,200	1,900	21,400
SHELLFISH:														
Unclassified Clams	fresh	...	2,100	...	...	...	...	...	...	...	...	...	...	2,100
Crabs	cooked	...	...	...	...	...	...	...	...	...	...	...	...	...
"	frozen	7,500	...	3,600	1,700	...	...	33,100	35,200	43,000	19,100	30,500	17,200	190,900
Crabmeat	frozen	...	...	...	...	...	...	2,900	...	...	...	4,700	4,400	12,000
Shrimpmeat	frozen	4,800	18,400	4,500	22,800	11,000	14,700	8,700	...	700	...	6,500	17,600	109,700
CURED FISH:														
Codfish, salted	lbs.	...	...	2,000	...	...	1,300	...	...	...	...	...	...	3,300
Cod Fillets, smoked	lbs.	30,300	15,400	8,300	...	...	1,300	...	...	...	2,000	1,900	80,000	139,200
Herring, Kippered	lbs.	...	...	15,500	...	4,000	...	...	2,000	...	...	...	...	21,500
" Pickled	lbs.	7,300	13,800	6,700	...	...	...	...	...	...	...	...	...	27,800
" Salted	lbs.	...	3,100	...	...	12,000	...	...	...	...	...	...	21,200	36,300
Mackerel, Salted	lbs.	...	...	1,800	...	...	...	...	...	...	...	...	...	1,800
Salmon, smoked	lbs.	10,600	7,500	...	...	11,300	1,000	...	...	500	...	600	2,000	33,500
" mild cured	tcs.	...	...	...	...	...	...	...	...	5	...	...	1	6
MEAL & OIL:														
Herring Meal	ton	1,050	1,017	629	241	459	185	40	404	267	181	170	399	5,042
Unclassified Meal	ton	30	111	2	210	50	440	300	680	442	590	608	446	3,909
Unclassified Oil	gal.	24,111	...	...	...	...	...	...	...	...	...	23,800	...	47,911
Fish Solubles	gal.	3,600	74,530	33,900	32,991	8,000	52,289	26,571	48,415	57,178	36,576	33,589	12,580	420,219

Holdings of Frozen Halibut in Canada by Months

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
	(Pounds)												
1943	5,033,262	4,320,016	3,662,970	2,023,376	1,678,527	3,113,646	4,822,529	4,874,661	4,971,853	3,715,845	4,136,536	3,494,191	1943
1944	2,503,628	2,039,395	1,507,225	1,097,699	792,549	728,024	3,905,781	6,675,093	6,368,948	6,354,092	5,392,449	4,861,059	1944
1945	4,222,080	2,970,513	2,605,945	1,596,132	1,193,618	4,430,285	7,065,500	6,462,794	6,146,324	5,305,732	4,538,808	2,874,540	1945
1946	2,348,945	1,472,192	1,188,634	717,256	237,978	5,499,251	9,561,055	9,260,311	9,366,369	8,076,480	7,067,600	6,298,440	1946
1947	5,479,805	4,176,190	3,592,122	2,680,602	1,282,144	7,140,603	10,209,201	11,994,470	13,411,286	11,517,561	9,836,666	9,080,400	1947
1948	8,296,000	6,613,000	5,254,000	3,348,000	2,312,000	9,108,000	10,717,000	11,216,000	9,362,000	8,610,000	7,418,000	5,687,000	1948
1949	4,749,000	3,949,000	2,867,000	1,017,000	445,000	7,972,000	9,959,000	11,957,000	10,972,000	9,523,000	8,463,000	6,781,000	1949
1950	5,346,000	3,250,000	2,162,000	1,116,000	689,000	7,329,000	10,755,000	11,273,000	10,428,000	8,475,000	8,429,000	7,020,000	1950
1951	6,450,000	5,398,000	4,349,000	2,725,000	2,433,000	13,198,000	14,452,000	13,550,000	13,445,000	12,883,000	10,791,000	9,212,000	1951
1952	7,433,000	5,098,000	3,747,000	2,367,000	1,449,000	7,662,000	12,129,000	13,420,000	12,544,000	12,569,000	10,439,000	8,077,000	1952
1953	7,812,000	5,451,000	3,812,000	2,464,000	1,511,000	7,504,000	16,583,000	15,434,000	17,065,000	14,758,000	12,394,000	11,443,000	1953
1954	10,082,000	7,696,000	5,882,000	3,604,000	1,728,000	6,912,000	11,353,000	12,935,000	14,772,000	13,619,000	12,145,000	11,691,000	1954
1955	10,422,000	8,965,000	7,376,000	5,034,000	3,274,000	7,682,000	10,198,000	11,716,000	12,518,000	11,276,000	9,914,000	8,308,000	1955
1956	6,723,000	4,895,000	3,089,000	1,904,000	1,111,000	2,573,000	10,904,000	10,255,000	11,359,000	15,195,000	10,745,000	9,795,000	1956
1957	10,996,000	8,876,000	7,402,000	4,811,000	3,725,000	8,890,000	12,492,000	13,657,000	14,113,000	13,303,000	12,517,000	10,732,000	1957
1958	8,961,000	7,141,000	4,701,000	2,663,000	2,158,000	6,156,000	12,703,000	13,263,000	12,743,000	12,236,000	11,723,000	*	1958

NOTE: All figures in accordance with latest reports. *Data not available. Source: Dominion Bureau of Statistics - Ottawa, Canada

1958-Ex-Vessel Landings at Seattle

SPECIES	Fresh	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	TOTAL
Cod - True	Rd.	161,500	119,800	194,000	847,000	679,900	416,300	264,300	240,000	178,000	332,100	318,300	127,300	3,878,500
Flounder	Rd.	24,500	19,500	3,700	6,100	7,900	...	500	27,800	3,100	8,300	300	3,400	105,100
Sole: English	Rd.	63,400	52,300	17,100	314,300	134,400	138,300	43,400	141,200	51,200	66,300	92,900	91,700	1,206,500
Petrale	Rd.	9,300	...	...	30,000	58,900	184,300	153,200	77,400	124,900	154,600	108,500	39,900	941,000
Unclassified	Rd.	28,300	12,600	11,000	59,400	83,700	64,200	126,400	81,300	149,300	22,600	94,800	54,700	788,300
Halibut No. 1	Dr.	. .	...	...	...	214,200	2,538,200	2,264,900	1,154,200	669,300	897,400	122,200	8,500	7,868,900
No. 2	Dr.	...	.	...	...	173,400	1,879,700	2,097,500	1,281,800	946,500	823,300	90,000	...	7,292,200
Canadian	Dr.	...	...	...	...	286,300	547,300	251,300	252,300	190,000	186,900	101,100	...	1,815,200
Lingcod	Dr.	2,400	10,000	1,000	2,300	1,100	9,200	2,700	...	...	4,800	3,600	19,400	56,500
"	Rd.	30,800	3,000	3,000	36,700	75,200	173,200	110,300	130,900	138,900	233,300	117,700	41,400	1,093,900
Perch, Pacific Ocean	Rd.	28,400	34,800	..	16,400	19,700	4,100	1,900	48,800	38,100	34,200	174,800	139,100	540,300
Rockfish	Dr.	...	2,000	...	...	...	1,200	8,300	4,000	8,700	8,000	6,600	2,900	41,700
"	Rd.	50,000	38,400	5,400	286,200	297,500	322,300	144,200	134,100	147,600	160,700	290,300	297,700	2,174,400
Sablefish	Dr.	...	...	...	..	...	7,900	22,300	123,300	188,700	186,600	505,800	103,600	1,138,200
"	Rd.	..	...	...	...	...	1,100	...	...	...	...	..	24,600	25,700
Salmon: Chinook	Dr.	..	...	. .	...	2,500	32,100	34,000	29,200	22,100	9,700	2,400	...	132,000
"	Rd.	..	...	...	..	.	.	..	4,300	...	800	2,100	600	7,800
Chum	Rd.	...	...	...	.	..	..	.	...	.	19,000	54,700	259,800	333,500
Pink	Rd.	. .	..	...	..	.	.	...	1,200	300	...	...	...	1,500
Silver	Dr.	..	..	...	...	.	..	10,800	77,600	67,500	30,400	6,200	8,000	200,500
"	Rd.	..	..	...	...	..	...	...	..	2,000	67,100	53,900	...	123,000
Sockeye	Rd.	.			..	..	...	.	...	21,500	...	300	...	21,800
Tuna - Albacore	Rd.	...	...	...	. .	...	...	..	...	...	4,300	60,600	...	64,900
TOTAL		398,600	292,400	235,200	1,598,400	2,034,700	6,319,400	5,536,000	3,809,400	2,947,200	3,250,400	2,207,100	1,222,600	29,851,400

MEXICAN SHRIMP EXPORTS THROUGH CALIFORNIA AND ARIZONA

1957-58

MONTH		Fresh Pounds	Frozen Pounds	Total Pounds
November	1957	4,972	3,309,327	3,314,299
December	1957	528	2,807,575	2,808,103
January	1958	...	2,554,629	2,554,629
February	1958	...	1,030,378	1,030,378
March	1958	...	1,737,434	1,737,434
April	1958	...	591,366	591,366
May	1958	2,060	1,474,473	1,476,533
June	1958	60	1,476,489	1,476,549
July	1958	...	1,943,286	1,943,286
August	1958	37,850	1,771,468	1,809,318
September	1958	2,180	3,327,277	3,329,457
October	1958	1,350	6,326,994	6,328,344
TOTAL		49,000	28,350,696	28,399,696

1956-57

MONTH		Fresh Pounds	Frozen Pounds	Total Pounds
November	1956	473	3,624,810	3,625,283
December	1956	150	2,531,007	2,531,157
January	1957	4,330	2,855,241	2,859,571
February	1957	350	1,471,087	1,471,437
March	1957	....	1,961,305	1,961,305
April	1957	....	449,523	449,523
May	1957	....	305,080	305,080
June	1957	....	1,975,895	1,975,895
July	1957	570	1,581,995	1,582,565
August	1957	....	1,313,886	1,313,886
September	1957	220	2,959,214	2,959,434
October	1957	7,770	5,247,256	5,255,026
TOTAL		13,863	26,276,299	26,290,162

poration, announced in December that it was installing four Peelers machines in a shrimp addition to its salmon packing plant at Larsen Bay, Kodiak Island, and would have this largest Alaska shrimp cannery in production in the spring of 1959.

● Oregon and Washington shrimp operators were inclined to feel that the decline in abundance noted during the last half of 1959 in the waters off the coast of those states was traceable to the active fishery of the spring months, and could not be attributed to the resource having been fished out in a single year of exploitation.

Abundance and availability of the shrimp during the current year is being watched closely by the industry as well as the biologists of the two state fishery departments.

Application of closed seasons on landing is expected by the states as the period for most effective protection as the spawning shrimp becomes better understood.

● Technological advances in the utilization of Ocean Pink shrimp are yielding products which examiners find a distinct improvement, particularly in the matter of color and firmness.

A possible result is expected by some to be a swing back toward freezing the picked shrimp meat in tins, with the shrimp protected from drying and flavor loss in a buffer solution of light brine.

This product was packed to some extent in British Columbia prior to the advent of machine picking. However, as the machines work only on raw shrimp, and much of the color is lost with the shell, the machine-picked article lent itself better to canning. Improvements in the technology of handling has led to re-awakened interest in the frozen delicacy.

Through the fall shrimp canning season the price generally quoted per case of 24 cans of 4½ oz. net weight, wet pack, was $8.00.

● Contributing importantly to the shift in shrimping emphasis into the Gulf of Alaska were the research investigations of the vessel *John N. Cobb,* which had also pioneered the investigations off Oregon and Washington. This Bureau of Commercial Fisheries craft in 1958 found heavy fishing in Kachemak Bay, Cook Inlet, where catches from 1,480 to 3,540 lbs. per hour were made. While the major portion of the catch consisted of Ocean Pinks, deliveries included worthwhile percentages of Coonstripe and Sidestripe varieties.

Excellent fishing also was found in Alitak Bay, Kodiak Island, Marmot Bay and Outer Izut Bay.

In some of her investigations the *Cobb* worked two 43' Gulf of Mexico trawls at one time, towing them from twin outboard booms after the method employed on the Gulf. With the nets staggered to prevent fouling, catches were found to be sharply increased over those taken by a single net of comparable size.

CALIFORNIA SHRIMPING Trends Toward North Coast

● Production of California ocean caught shrimp has increased every year since 1952 when the fishery was first started, and the 1958 production was 1,700,000-lbs.

This compares with a catch of 200,000-lbs. when the California shrimp boats first started out in 1952.

According to California Department of Fish & Game officials who keep a watchful eye on the fishery, this increase has been due to increased fishing effort, more know-how on the part of fishermen, and more efficiency in boats, gear, and crews.

In 1952 only about four trawlers were in the trade. Two of them caught 90% of the catch. In 1958 trawlers operated numbered 11.

In 1958 the Eureka-Crescent City area was the most productive. Here some 1,139,000-lbs. of shrimp were landed. In this area four plants received shrimp, some processing them on the spot, and others processing them at other points. The plants were: Tom Lazio Fish Co., Hunter & Foland Fish Co., West Coast Crab Co., and California Shellfish Co.

The next most productive area was Fort Bragg. Here 330,000-lbs. were landed in 1958. Receiving and processing were A. Paladini, Inc., F. Alioto Fish Co., Meredith Fish Co., and Hunter & Foland Fish Co.

Bodega Bay also participated in the harvest with some 172,000-lbs. being landed there. Tom Lazio Fish Co., F. Alioto Fish Co., Meredith Fish Co., Paladini, Inc., and Pt. St. George Fish Co., which had a plant at Santa Rosa, were receiving the crustaceans.

In 1958 Morro Bay produced 90,000-lbs., and this was the first time since 1953 that this area had produced anything at all. Jamieson Seafoods and Morro Bay Fisheries received and processed the catch.

Shrimp fishing gear off the California coast is similar to that used in other parts of the country, especially in British Columbia and Alaska. A beam trawl is used with 1½" mesh, and sometimes an A-frame is mounted

1958 -FISHERY PRODUCTS IMPORTED FROM MEXICO-

(ENTERED THROUGH CALIFORNIA AND ARIZONA)

SPECIES	Pounds												
	Nov. '57	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	Oct.	TOTAL
FISH:													
Cabrilla	...	...	900	9,556	14,697	...	74,440	51,588	32,989	...	...	1,210	185,380
Corbina, fresh & frozen	38,033	187,879	153,690	422,540	334,199	524,461	116,186	4,984	1,320	...	...	...	1,783,292
Flounders	488	...	...	...	...	...	...	...	...	...	...	...	[illegible]
Sardines (canned)	...	...	270,000	327,555	105,026	92,250	36,000	...	...	...	...	...	830,831
Sea Bass: White & Black	4,195	...	...	...	...	...	1,400	...	10,759	...	...	...	16,354
Tortuava	35,149	30,590	57,180	105,730	70,323	...	...	30,817	21,818	...	...	...	351,607
Unclassif. fr.& frz.	14,838	14,375	20,628	76,281	44,018	59,808	48,208	33,424	27,398	3,714	1,770	12,708	357,171
Yellowtail	1,100	...	...	.	...	...	...	...	...	...	...	...	1,100
Tuna	...	60,000	389,718	..	...	184,913	203,355	566,150	746,211	1,068,064	84,552	338,797	3,641,760
TOTAL FISH	93,803	292,844	892,116	941,662	568,263	861,433	479,589	686,963	840,495	1,071,778	86,322	352,715	7,167,983
SHELLFISH:													
Abalone: Fresh	...	...	...	...	...	...	2,000	...	...	...	...	...	2,000
Frozen	...	...	...	...	...	...	...	...	...	...	...	110	110
Canned	258,818	348,468	544,160	190,409	244,368	289,440	683,200	348,000	427,780	329,200	295,920	462,740	4,422,503
Dried	...	...	...	1,500	...	...	...	...	...	...	...	1,412	2,912
Fresh & Frozen:													
Clams & Clammeat	36,168	...	19,712	69,344	25,088	...	12,317	48,376	106,396	104,161	54,838	3,000	479,400
Shrimp	3,314,299	2,808,103	2,554,629	1,030,378	1,737,434	591,366	1,476,533	1,477,549	1,943,286	1,809,318	3,329,457	6,328,344	28,400,696
Spiny Lobsters	306,910	396,356	372,730	250,780	141,202	2,865	...	...	...	...	...	306,471	1,777,314
Unclass. Shellfish	..	480	...	...	2,701	6,255	...	11,650	...	...	...	...	21,086
TOTAL SHELLFISH	3,916,195	3,553,407	3,491,231	1,542,411	2,150,793	889,926	2,174,050	1,885,575	2,477,462	2,242,679	3,680,215	7,102,077	35,106,021
OTHER FISHERY PRODUCTS:													
Livers: Unclassified	543	...	...	...	...	...	...	...	...	...	...	...	543
Shark	...	7,307	7,286	16,868	22,888	2,930	4,841	15,709	4,338	6,173	...	8,377	96,717
Miscellaneous	...	75,000	92,688	30,000	15,000	145,453	41,503	34,703	49,394	107,500	...	...	591,241
Meal	...	...	15,000	26,400	111,172	203,338	215,252	126,300	346,854	307,800	337,900	198,600	1,888,616
Shark Fins	15,000	1,850	3,199	1,869	...	1,899	6,602	20,605	14,179	5,209	2,056	5,326	77,794
TOTAL PRODUCTS	15,543	84,157	118,173	75,137	149,060	353,620	268,198	197,317	414,765	426,632	339,956	212,303	2,654,911

on deck for handling the trawl. Trawl line is regular half-inch wire rope, and webbing is mostly cotton.

Average length of trawl is about an hour and a half. The depth varies—40-50 fathoms off Bodega Bay, 80-100 fathoms of Morro Bay, and Crescent City and Eureka in between. Fishermen were getting 9-10c per lb. during 1958.

The shrimp meat is vacuum packed in 5-lb. cans, and much of it is fresh frozen. No peeling machines are used in the California shrimp industry. The count per pound runs from 69 to above 160, and 110 is average. They are picked by hand.

The fishery makes fill in work for crab fishermen with larger boats—in the 40′ class, and gives work to at least 200-300 pickers.

The California shrimp fishing season starts May 1 and ends Oct. 15, unless the fishery in each area reaches its quota earlier.

The Eureka-Crescent City quota is 1,000,000-lbs., but since there has to be about two week grace after the Department of Fish & Game declares the quota filled, the quotas are exceeded slightly sometimes.

The quota for the Fort Bragg area is 200,000-lbs., and it was reached Aug. 14. Bodega Bay's quota is 600,000-lbs., and that was exceeded in 1957 but in 1958 the fishing fell off in that area.

At Morro Bay the quota is 150,000-lbs.

- The history of the California ocean shrimp fishery is quite recent. Fishermen had been reporting finding shrimps in their bottom trawl nets for a number of years. In 1949 the California Department of Fish & Game started a series of surveys which led to the discovery of the shrimp beds.

In 1952 rules and regulations for the fishery was promulgated, and the first shrimp boats started out.

Officials of the Department of Fish & Game state that as the fisheries develop, the allowable quotas can be raised or lowered. However, the California ocean shrimp fishery probably will never be a huge industry like that in the Gulf or elsewhere in the United States, but it will remain a valuable one.

Officials state that like any fishery it will have its up and downs. There will be years classed which will provide better fishing than others.

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Pacific Canned Crab

(Shown in Standard Cases of 48 half-pound Cans)

YEAR	Alaska	Washington	Oregon	California	American Total		British Columbia	North American Total	YEAR
					Cases	Value			
1958	50,449	41,248	11,125		102,822	$ 2,596,362	13,369	116,191	1958
1957	49,361	45,970	10,818	303	106,552	2,360,644	9,954	116,506	1957
1956	41,300	32,512	9,904	660	84,376	1,988,351	11,871	96,247	1956
1955	24,534	9,450	2,959	156	37,099	972,610	7,942	45,041	1955
1954	41,642	36,141	24,717	362	102,862	2,618,464	9,717	112,579	1954
1953	21,026	15,482	7,898	146	44,552	1,303,606	5,037	49,589	1953
1952	22,647	9,076	9,624	237	41,584	1,173,211	5,148	41,584	1952
1951	26,753	19,885	39,878	1,500	88,016	2,332,424	4,159	88,016	1951
1950	25,927	23,270	28,075	1,260	78,532	1,868,680	7,283	85,815	1950
1949	13,198	65,004	36,652	. . .	114,854	2,547,765	4,839	119,693	1949
1948	26,076	104,362	56,982	3,500	187,420	4,264,622	3,500	190,920	1948
1947	10,158	54,756	34,582	6,624	106,120	2,037,904	2,481	108,601	1947
1946	15,792	19,263	29,106	15,194	79,356	2,271,965	1,455	80,811	1946
1945	15,760	9,070	896	. .	25,726	398,898	.	25,726	1945
1944	13,376	16,524	10,968	.	40,868	653,888	385	41,253	1944
1943	9,386	18,332	20,874	. .	48,592	782,173	. . .	48,592	1943
1942	7,766	26,052	45,338	. .	79,156	1,266,496	885	80,041	1942
1941	11,126	13,232	13,346	. .	37,704	311,822	3,386	41,090	1941
1940	12,828	8,634	3,792	. .	25,254	178,021	3,794	29,048	1940
1939	11,978	2,716	8,406	. .	23,100	184,254	2,049	25,149	1939
1938	. . .	. . .	. . .	.	27,016	258,375	2,157	29,173	1938
1937	. .	. . . .	. .	. .	27,394	269,699	1,546	28,940	1937
1936	. . .	. . .	. . .	.	14,758	124,925	.	14,758	1936
1935	. . .	. . . .		. .	13,840	106,832		13,840	1935
1934	. . .	. . . .	. . .	. .	22,869	184,052	.	22,869	1934
1933	. . .	. . .	. .	. .	17,564	134,330	.	17,564	1933
1932	. .	. . . .	.	. .	9,314	73,112		9,314	1932
1931	. .	. . . .	. . .	. .	263	2,104	.	263	1931

Crabbing in Sidewise Movement

- Pacific crab abundance eased moderately during 1958, after two successive years of excellent supplies.

Catches were relatively good, although missing the flush character of the two preceding seasons.

Freezing of whole eviscerated glazed crab in film pouches continued strong during 1958 after its spectacular beginnings the year before, and this demand unquestionably drained away a substantial percentage of the catch available to plants with convenient freezing facilities.

- Early in 1958 crab fishing was interfered with seriously by the adverse weather, which prevented active fishing. By early February, however, deliveries picked up in the Pacific Northwest. This improvement was followed almost immediately by a dispute over prices which idled the entire North Coast crab fleet.

The strike lasted for a period of about 10 days and then was settled on the fishermen's terms. These called for 10c per lb., ocean run, instead of the 8c which had prevailed from the opening of the season until the onset of the strike.

By the middle of March production was at a flush level in most areas and the market for picked crabmeat was weak. April found crabbing excellent.

Seasonal slackening of crab deliveries was manifest by the first of May, but continued quite good as late as the middle of June, although by that time canning and freezing had largely been suspended, with the crab deliveries going primarily to the fresh market.

Fall deliveries of crabs from Puget Sound were light, and fell off as the season progressed. Pre-holiday crab

Washington Crab Landings

YEAR	Puget Sound Pounds*	Grays Harbor Pounds**	Willapa Harbor Pounds**	Columbia River Pounds**	TOTAL POUNDS
1936	441,892	451,890	865,194	....	1,758,976
1937	500,104	643,234	1,441,352	3,428	2,588,118
1938	521,180	387,728	1,831,716	....	2,740,624
1939	441,122	620,004	2,153,496	....	3,214,622
1940	428,692	1,134,182	3,341,754	....	4,904,628
1941	514,184	1,293,222	3,968,152	206,984	5,982,542
1942	989,186	2,262,696	2,134,818	249,304	5,636,004
1943	1,267,024	2,732,090	1,052,550	56,660	5,108,324
1944	1,790,118	2,622,316	1,529,196	83,326	6,024,956
1945	1,993,398	1,961,978	1,439,204	4,838	5,399,418
1946	2,284,810	3,674,536	2,022,004	121,335	8,102,685
1947	1,512,808	6,599,380	3,822,288	38,184	11,972,660
1948	1,933,426	9,080,584	4,241,256	614,184	15,869,450
1949	1,355,148	7,633,157	3,204,240	950,006	13,142,551
1950	2,373,316	2,171,072	1,427,042	399,440	6,371,166
1951	1,547,502	1,321,400	1,806,096	154,970	4,829,968
1952	915,807	1,373,708	1,892,842	82,580	4,264,937
1953	1,190,186	2,700,206	3,035,435	78,263	7,004,090
1954	1,667,085	3,099,287	3,356,879	191,177	8,314,428
1955	1,212,743	3,269,131	2,457,479	209,871	7,149,224
1956	597,067	3,832,842	4,082,936	329,386	8,842,231
1957	331,061	7,174,757	3,196,881	306,931	11,089,630
1958	291,669	7,109,034	3,575,711	650,224	11,626,638

*Conversion 22 lbs. per dozen. **Conversion 24 lbs. per dozen.

NOTE: 1958 Puget Sound figures are incomplete but include best available estimates to Dec. 31, 1958 deliveries in late 1958 were fair, with the price up to 12c to the fishermen.

- While crab production generally showed some decline in 1958, and this was particularly true of the amount of canned crab produced, it appears that the Oregon deliveries of crabs were the largest in that state's history, running in the neighborhood of 15,000,000 lbs.

Late in 1958, when ocean crabbing was resumed for the 1958-9 season, the producers sought and secured a 12c price, partly as result of their strong organization, and in part due to inclement weather which interfered with production during a period of active demand.

WASHINGTON TRAWL LANDINGS

Year	Sole and Flounders	"Cod"	Lingcod	Sablefish	Rockfish	Miscellaneous	TOTAL	Year
1930	339,932	26,318	......	...	24	32,419	398,693	1930
1931	323,064	30,269	......	...	...	3,674	357,007	1931
1932	281,302	46,512	......	....	1,000	1,374	330,188	1932
1933	296,517	59,965	....	......	.....	5,200	361,682	1933
1934	247,684	25,405	13,454	....	8,313	6,116	300,972	1934
1935	2,575,998	185,786	285,759	....	63,284	23,743	3,134,570	1935
1936	4,791,994	406,361	237,229	.....	81,301	22,650	5,539,535	1936
1937	4,265,491	441,130	235,431	....	72,640	14,919	5,029,611	1937
1938	5,036,852	456,814	286,439	....	107,163	21,952	5,909,220	1938
1939	4,659,122	354,805	197,982	......	112,395	231,614	5,555,918	1939
1940	5,917,096	518,705	247,007	.....	248,711	946,788	7,878,307	1940
1941	7,977,576	457,253	199,128	....	93,286	582,295	9,309,538	1941
1942	9,575,018	1,172,811	3,845,055	118,406	1,034,417	717,279	16,462,986	1942
1943	13,350,936	996,963	4,859,693	778,451	4,464,702	1,015,394	25,366,139	1943
1944	7,806,664	623,151	4,254,298	1,429,682	5,132,233	270,898	19,516,926	1944
1945	9,185,003	2,417,053	4,177,839	529,507	16,093,712	211,068	32,614,182	1945
1946	9,709,656	3,701,647	3,193,436	628,756	10,094,207	93,705	27,421,407	1946
1947	9,294,256	2,442,583	2,481,497	155,981	6,024,582	99,887	20,498,786	1947
1948	13,744,310	5,371,084	4,649,453	314,229	10,262,442	162,166	34,503,684	1948
1949	10,368,493	5,465,538	3,063,672	586,368	12,610,526	588,282	32,682,879	1949
1950	10,379,364	6,330,873	2,365,948	497,822	12,210,430	414,731	32,199,168	1950
1951	11,016,660	8,395,728	1,844,559	1,277,731	9,939,526	2,057,590	34,531,794	1951
1952	12,865,755	9,976,893	1,510,339	643,485	11,288,025*	3,375,374	39,659,871	1952
1953	7,890,623	8,183,080	949,757	225,228	6,979,133*	4,468,543	28,696,364	1953
1954	12,314,392	15,392,911	1,517,995	335,995	12,857,626*	1,593,525	44,011,733	1954
1955	13,890,754	12,608,123	3,428,200	316,950	9,082,237*	3,512,835	42,839,099	1955
1956	14,186,788	9,560,914	2,845,989	3,268,911	10,689,677*	1,756,587	42,308,866	1956
1957	13,459,636	11,280,451	2,566,023	563,968	8,787,706*	5,482,072	42,139,856	1957
1958	11,058,015	13,904,535	2,872,545	86,391	6,634,810*	5,877,495	40,433,791	1958

*Includes Pacific Ocean Perch: 1952 - 1,694,355; 1953 - 3,101,562; 1954 - 6,250,000. 1955 - 3,498,758; 1956 - 4,994,875; 1957 - 4,515,704; 1958 - 2,488,050

NOTE: 1958 figures include estimates through the balance of the year made by the Washington Department of Fisheries.

1958-Coastwise Receipts at Seattle from Alaska-1958

(Pounds)

SPECIES		Dec. '57	Jan. '58	Feb	March	April	May	June	July	August	Sept.	Oct.	Nov.	12 Months Total
Halibut	Frozen	579,900	1,124,100	1,444,200	664,800	...	439,500	460,800	2,151,800	662,700	940,700	1,628,300	1,129,700	11,226,500
Herring	Frozen	...	...	4,500	130,000	5,500	58,000	1,700	71,300	6,500	...	...	...	277,500
Sablefish	Frozen	29,100	107,500	243,200	155,000	28,800	430,000	15,000	35,000	5,600	3,800	79,400	168,200	1,300,600
SALMON:														
Chinook	Frozen	..	7,500	39,500	...	2,100	10,000	105,600	171,700	47,200	52,700	173,700	84,500	694,500
Chum	Frozen	...	2,500	..	...	..	...	...	...	49,100	31,000	346,500	...	429,100
Pink	Frozen	2,400	...	...	...	..	...	...	5,000	66,800	9,900	46,400	16,100	146,600
Silver	Frozen	75,400	194,600	124,500	38,000	.	...	...	12,000	355,500	438,800	684,100	251,200	2,174,100
Sockeye	Frozen	...	..	...	...	..	...	..	...	14,900	1,100	...	...	16,000
Crabs	Frozen	...	13,300	25,900	42,700	127,600	...	...	125,600	51,000	38,200	119,500	56,300	600,100
Crabmeat	Frozen	22,000	. .	..	...	313,600	...	10,300	23,900	30,300	7,200	21,800	62,200	491,300
Shrimp	Frozen	16,200	800	800	9,200	...	...	2,900	2,400	1,600	...	...	12,700	46,600
Shrimpmeat	Frozen	21,600	21,700	42,200	27,500	11,100	400	26,100	24,000	20,500	...	7,400	39,400	241,900
Miscellaneous	Frozen	...	40,600	...	...	...	...	...	..	108,900	...	...	...	149,500
TOTAL		746,600	1,512,600	1,924,800	1,067,200	488,700	937,900	622,400	2,622,700	1,420,600	1,523,400	3,107,100	1,820,300	17,794,300
CURED FISH:														
Sablefish, Salted	Bbl.	...	..	...	...	...	...	...	...	...	...	...	...	...
Salmon, Mild Cured	Tcs.	15	1	...	...	1	29	368	809	870	416	477	84	3,070
Salmon, Salted	Bbl.	.	...	...	...	...	...	...	...	..	...	403	15	418
Herring, Salted	Bbl.	...	...	...	...	...	...	...	...	64	...	...	...	64
MEAL AND OIL:														
Unclassified Meal	Tons	...	61	...	...	...	...	...	..	.	...	. .	...	61

1958 Pacific Canned Crab

COMPANY	Cannery Location	Cases, basis 48 Halves
ALASKA		
KING CRAB:		
King Crab, Inc.	Kodiak	17,445
Pacific American Fisheries	King Cove	18,613
Pan-Alaska Fisheries	Ouzinkie & Homer	8,434
Uganik Trading Company	Uganik Bay	62
Whitney & Company	Seldovia	3,200
	Total KING CRAB	47,754
DUNGENESS CRAB:		
Aurora Packing Company	Big Point	500
Ekren Packing Company	Seldovia	100
Shelter Cove Packing Company	Fleming Spit	500
N. E. Thompson Company	Kake	500
Totem Seafoods	Tenakee	1,095
	Total DUNGENESS CRAB	2,695
TOTAL ALASKA CRAB, both species		50,449

COMPANY	Cannery Location	Cases, basis 48 Halves
BRITISH COLUMBIA		
DUNGENESS CRAB:		
Queen Charlotte Canners, Ltd.	Massett	13,[illegible]
WASHINGTON		
Harbor Seafoods Company	Bay Center	5,160
Kaakinen Fish Company	Westport	552
Nelson Crab & Oyster Company	Tokeland	18,750
Pacific Pearl Frozen Foods	Aberdeen	9,188
Pacific Pearl Seafoods, Inc.	Westport	7,598
	TOTAL WASHINGTON	41,248
OREGON		
Point Adams Packing Company	Hammond	11,125
	TOTAL DUNGENESS, all areas	68,437
	TOTAL KING CRAB	47,754
GRAND TOTAL PACIFIC CANNED CRAB		116,191

- King crab operations in Alaska underwent some significant changes during 1958.

Wakefield's Deep Sea Trawlers, Inc., were the only firm which operated in the Bering Sea during the year—where only indifferent fishing was found.

At the same time there was a build-up of in-shore operations in American waters in the vicinity of the Shumagin Islands, and along the Alaska Peninsula, in waters around Kodiak Island and its neighbors.

In Kachemak Bay, where sensational King crab fishing had been found in 1955 and 1956, the severe decline manifest in 1957 was accelerated in 1958.

- Interest in King crab canning in the Kodiak area showed increase in 1958, particularly with the announcement that the San Juan Fishing & Packing Co. and the Kadiak Fisheries Co. was entering the field of King crab canning in the Muller plant at Kodiak, leased for the purpose.

These two leading salmon canners are active in the Kodiak area, particularly along the Shelikof Strait side, where they both have canneries.

- King, Dungeness and Tanner crab have all been utilized commercially in Alaska, but at the present time, partly because of technological problems, there is no fishery for the abundant Tanner crab. Although King and Dungeness crab each contribute to the total Alaska crab pack, the former is by far the dominant species landed. The crab industry had its origin in 1909 in Southeastern Alaska when a market developed for fresh Dungeness crab. However, it was not until 1921 that a canning industry for this species developed. Dungeness crab, which are taken by pots, were first marketed in Southeastern Alaska, but soon the industry expanded to include catches from Prince William Sound, an area that also produces some King crab.

King crab fishing occurs in four areas. Large vessel operations are carried on in the spring and summer in the Bering Sea where American boats, using trawls, and Japanese boats, with both trawls and tangle nets, take the catch. Smaller vessels, using trawls and pots, dominate the other three fishing areas. Kodiak and the Sand Point-Cold Bay regions are areas of fall and winter fishing, while the Cook Inlet fishery, which is concentrated in Kachemak Bay, is carried on primarily in the summer months.

- Active research programs are proceeding in each of the King crab fishing regions. In the Bering Sea research is conducted under the auspices of the International North Pacific Fisheries Commission, and south of this area investigations are conducted or supported by the Alaska Region of the Bureau of Commercial Fisheries. To determine the extent of interchange of King crabs between the Bering Sea and the Gulf of Alaska, biologists of the international fisheries group tagged 1,999 crab in the summer of 1957 suoth of the Alaska Peninsula near the Shumagin Islands. To date 93 tags have been recovered.

OREGON CRAB LANDINGS

	Dozen												
Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1945	17,006	19,199	17,315	41,706	47, 75	43,305	10,820	10,413	4,226	9,135	9,807	12,419	243,026
1946	17,065	21,815	30,732	34,074	80,626	34,414	13,694	5,783	4,568	8,859	12,834	14,814	279,278
1947	22,660	27,457	40,555	46,527	78,649	50,317	20,806	7,188	3,813	3,686	8,621	3,971	314,250
1948	35,592	37,973	63,516	87,353	96,885	34,841	15,171	9,098	4,969	4,205	2,662	9,206	401,471
1949	49,617	22,681	52,571	60,613	73,273	45,310	19,539	11,433	4,828	4,770	8,914	20,312	373,861
1950	22,414	26,186	38,315	35,513	46,910	27,012	6,997	4,145	3,914	3,095	9,730	25,864	250,095
1951	34,161	39,080	41,361	49,042	54,348	11,740	4,764	3,742	2,065	. . .	. . .	. . . . .	240,303
1952	19,864	23,672	28,024	42,256	45,842	11,150	5,268	3,577	2,233	5,618	15,981	14,780	218,265
1953	15,790	28,080	49,241	58,797	60,383	18,252	6,143	3,822	2,769	4,087	17,105	58,339	322,808
1954	61,369	62,746	86,731	72,434	36,170	7,789	5,054	3,666	1,896	2,849	16,334	30,034	387,072
1955	37,850	44,103	39,902	30,658	25,931	13,498	6,732	3,540	2,434	6,882	21,834	33,863	267,227
1956	31,828	28,271	55,700	70,457	65,922	28,469	7,847	4,369	3,080	3,169	15,672	29,650	344,434
1957	68,638	53,288	59,565	81,651	73,596	39,950	28,434	13,877	3,857	5,494	26,880	25,437	480,667
1958	81,009	52,045	91,881	61,542	39,038	17,022	6,120	4,698	2,486	*	*	*	355,841

*Figures not available.

Fishermen and Fishing Gear Registered in Alaska in 1958

(b = boats, p = pots, t = trawlers)

District	Registered fishermen			Registered units of gear											
	Resident	Nonresident	Total	Traps	Trolls	Drift nets	Set nets	Beach seines	Purse seines	Herring seines	Shrimp trawlers	Clam shovels	Dungeness crab	King crab	Sport commercial
Southeastern	4,150	1,549	5,699*	146	1,349	King 248 Red 404 Coho 420	King 17 Red 26 Coho 26	17	493	12	14 t		6 b/w 1,177 p		698
Yakutat	146	25	171				King 53 Red 167 Coho 171								
Prince William Sound and Copper River	424	138	562	13	13	King 41 Red 575 Coho 501	Coho 9		192	4		348**	18 b/w 1,502 p		1
Cook Inlet	994	148	1,142	50		King 213 Red 346 Coho 198	King 453 Red 467 Coho 326	112			6 b/w 100 p 4 t	7	89 b/w 1,287 p		
Kodiak	745	505	1,250	22			King 1 Red 87 Coho 8	39	339	5		71		47 b/w 1,139 p 4 t	
Peninsula and Chignik	416	321	737	12		King 67 Red 100 Coho 64	King 18 Red 88 Coho 20	82	169					5 b/w 305 p 5 t	
Bristol Bay	936	760	1,696			King 412 Red 1,056 Coho 506	King 31 Red 248 Coho 157								
Yukon	245		245				King 207								
TOTAL	8,056	3,446	11,502	243	1,362	King 981 Red 2,481 Coho 1,689	King 780 Red 1,083 Coho 717	250	1,193	21	6 b/w 100 p 18 t	426	113 b/w 2,766 p	52 b/w 1,444 p 9 t	699

* Includes 999 resident trollers, 253 nonresident trollers, 670 resident sport-commercial fishermen, and 24 nonresident sport-commercial fishermen.

** Actual registration; a strike prevented full-scale operations.

Pacific Crab Canning Contributes Economic Stability

● Pacific crab canning in 1958 held as close to the pattern of the previous year as might seem possible.

The American total pack was down some 4,000 cases, but the reported Canadian production compensated for most of this drop, letting the year close with a decline of only 1,000 cases.

The King crab production rose slightly in 1958 in spite of the severe depletion evident in Kachemak Bay, which for several years had produced a significant part of the Alaska output of this species.

The American Pacific canned crab pack of 1958 was 102,822 cases, of which 47,754 cases were King crab. The overall value of the pack was $2,596,362.

● King crab canning is taking on larger stature with the entrance of several of the large salmon canning companies of Central Alaska into this field. With its seasonal character not in coincidence with the salmon season, the King crab resource affords a means by which both plants, fishermen and fleet can be occupied over a longer productive season, and thus is specially attractive from the standpoint of its potential for contribution to the economic stability of the Alaska industry.

Quarter-Pound Can Enters Crab Canning

● An interesting development of the early weeks of 1959 was the appearance on the American market of the first quarter-flat cans for crab. While this package has been used in Canada, it is believed that it was not until early 1959 that this size was introduced to the American consumer.

Careful market studies by Ivar Wendt, Seattle seafoods distributor who introduced the quarter-pound crab pack in the United States, indicated that the can will extend sales of canned crab, and will not substitute a smaller can for the usual size in the shopping basket.

The crab at introduction was priced wholesale at $7.25 per case of 24, as compared with $11.50 per case of 24 cans of the 6½-oz. size. This is designed to permit the quarter can to retail at 39c, a good 20c or more under the 59-69c price for the 6½-oz. package.

Contents of the quarters can consists of a careful blend of body and leg meat in the same percentage as the larger can. Where used in cocktail, omelet, salad, stew, or such dishes in combination with other foods, the quarter can is rated altogether adequate for two adults or a small family.

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OYSTERS

Pacific Canned Oysters

SEASON OF 1957 - 1958

Company	Cannery Location	Cases of 48 Cans			
		No. 1 E.O. 10-oz.(48)	Buffet 8-oz. (48)	Total Cases as they run	Total Standard Cases Basis 48 No. 1 E.O.
Bendiksen Co., E.H.	South Bend, Washington	26,000	--	26,000	26,000
Coast Oyster Co.	South Bend & Elsewhere	17,984	26,587	44,571	39,253
Haines Oyster Co	Seattle, Washington	212	--	212	212
Northern Oyster Co.	Oysterville, Washington	40	40	80	72
Wiegardt Brothers	Ocean Park, Washington	21,576	2,877	24,453	23,877
	TOTAL	65,812	29,504	95,316	89,414

PACIFIC CANNED OYSTERS, equivalent of standard cases of 48 No. 1 E.O. packed in -

		1954	100,687	1948	83,489	1942	72,315	1936	118,853
		1953	114,687	1947	57,205	1941	178,445	1935	88,062
		1952	112,415	1946	89,050	1940	148,870	1934	68,323
1957	128,493	1951	132,140	1945	3,184	1939	112,549	1933	32,315
1956	109,559	1950	120,742	1944	none	1938	111,348	1932	12,233
1955	124,497	1949	113,989	1943	583	1937	110,872	1931	7,930

Pacific Oyster Industry Growth Reflects Effect of Rising Imports

- Growth trend of the Pacific oyster industry faltered in 1958.

Operators have no hesitancy in ascribing this condition to the pressure of rising imports of canned oysters from Japan, whose shipments to the United States showed a marked increase over the preceding year.

Canned oyster stew continued to maintain its volume leadership over standard canned oysters in cases packed, although the actual amount of oysters marketed in this convenience product probably does not equal that of the older staple.

Pollution problems continue to concern the industry in the Pacific Northwest, although the closing of the pulp mill at Shelton, Wash., relieved a situation of critical character; and at the same time supported the contention of the anti-pollution advocates with a concrete demonstration of conditions corrected by elimination of pulp liquor discharge.

- As an oyster year, 1958 proved a good one in Pacific growing areas, due primarily to the warm water prevailing along the coast, plus exceptionally warm weather conditions along shore.

Natural domestic spawning in the Pacific Northwest was unusually good in 1958 as result of the warm water conditions, but the growers there nevertheless maintained the volume of their 1959 import orders in order to protect the economy of the seed-producing areas in Japan, upon which the Pacific Northwest industry depends for its year-in, year-out seed supply.

- Fresh oyster condition, and resulting trade, rounded into shape nicely in the fall of 1958, with the spawny oysters disappearing from the harvest earlier than usual for the Pacific variety.

This condition is believed to have had definite effect upon the fresh oyster trade on the Pacific Coast during the fall and early winter of 1958.

A technological development being undertaken in connection with frozen oysters looks toward the freezing of oysters individually after they have been dipped in a protective edible glaze to prevent them from freezing together in the package. This procedure is regarded in the Pacific oyster trade as promising important stimulus for frozen oyster sales.

- Cooperating with the Pacific oyster industry in an effort to improve Japanese seed through the elimination of

IMPORTS OF CANNED OYSTERS, 1949-1958

Year	JAPAN		HONG KONG		OTHER COUNTRIES		TOTALS	
	Pounds	Value ($)	Pounds	Value ($)	Pounds	Value ($)	Pounds	Value ($)
1948	11,955	5,950	17,887	17,884	127,634*	118,513*	157,526	141,911
1949	82,704	49,543	12,176	11,556	241,402*	241,913*	336,282	303,012
1950	205,104	97,667	18,730	13,004	215,392*	152,060*	439,225	262,731
1951	731,335	334,774	183,859	132,558	105,193*	73,065*	1,020,387	540,397
1952	491.214	274,905	120,247	82,467	1,399	408	612,860	357,780
1953	606,322	324,410	62,498	59,743	755	866	669,576	385,019
1954	891,349	369,348	231,795	246,493	4,490	2,162	1,127,634	618,003
1955	1,286,325	504,550	180,750	165,864	4,066	2,276	1,471,141	672,690
1956	1,711,039	636,851	207,573	175,645	2,065	1,203	1,921,493	813,955
1957	2,432,215	814,586	240,349	192,893	2,940	1,316	2,675,502	1,008,795
1958**	1,851,475	552,019	138,069	103,013	20,044	6,959	**2,009,588	661,991

*Production from China made up bulk of these figures. **Six months.

Pacific Canned Oyster Stew

SEASON OF 1957 - 1958

Company	Location	Cases of 48 cans No. 1 E.O. 10-oz.	Cases of 48 cans Buffet 8-oz.	Cases of 48 cans Total Cases As they run	Total Standard Cases Basis 48 E.O.
Coast Oyster Co.	All Plants	106,393	15,654	122,047	118,917
Hilton Sea Food Co.	Seattle	112,498	33,847	146,345	139,576
Northern Oyster Co.	Oysterville, Washington	50	400	450	370
Wiegardt Brothers	Ocean Park, Washington	5,122	(a) 4,407	(a) 9,529	10,044
	TOTAL	224,063	54,308	278,371	268,907

(a) Includes 1,746 cases of 1-lb. talls, 48 cans per case.

1956-57 Total 273,288
1955-56 Total 182,179
1954-55 Total 170,058
1953-54 Total 134,111
1952-53 Total 78,536

drills and other predatory organisms, Governor Yashushi Ohnuma of Miyagi Prefecture, Japan, visited the Pacific Northwest during the early summer of 1958, studying intensively the conditions under which the oysters are grown in American Pacific waters, and consulting with biologists and growers alike.

His prefecture, one of the most scenic in Japan, provides the vast majority of the oyster seed shipped to the United States and Canada. Ideally situated for the production of seed, this area also supplies numerous other areas in Japan, some of which surpass Miyagi Prefecture in production of oysters for food.

● Atlantic and Pacific oyster growers in 1958 united in requesting federal government agencies to rule on the admissibility into interstate commerce in the United States of oysters canned in Japan under the label term "Pacific Oysters."

The American operators contend that the term "Pacific Oysters," through common trade and public usage for more than 30 years has come to mean exclusively oysters of the species *Ostrea gigas* grown in waters of the Pacific States and British Columbia; and cannot properly be applied to oysters grown elsewhere, even though they might be of the same variety and grown in other portions of the Pacific Basin.

The petitioners sought an interpretation which would conform to this historic usage and would limit the term "Pacific Oysters" to products from oysters grown to maturity in the coastal waters of the Pacific Coast of North America.

Oyster Seed Planting Holds To Normal Level in 1958

● Planting of imported oyster seed in Pacific Coast waters held close in 1958 to the pattern of previous seasons, involving 57,155 cases of seed, of which the Miyagi type continued dominant, although there was a tendency to increase the plantings of the smaller Kumamoto and the experimental Suminoe varieties.

Distribution of the plantings saw some normal variation from the previous year, but no trends of special significance. Oregon planting, however, was by far the heaviest in any year since 1953, reaching 2,619 cases; while Alaska's 550 cases was far above the amount usually planted there.

California, where heavy plantings have been made in Humboldt Bay, and to some extent elsewhere, again planted above 11,000 cases.

● Washington state oyster production in pounds for 1958 was 9,880,266, as compared with 9,980,708 lbs. in 1957.

The decline was due to a sharp decrease in production in Grays Harbor, down nearly 250,000 lbs. from 1957. Cause has not been determined, but it should be noted that Willapa Harbor production was up (5,922,890 lbs. in 1958; 5,755,892 lbs. in 1957), thereby excluding most natural environmental factors.

The Olympia oyster production is low in comparison to past years, but at 30,430 lbs. it is nearly twice as high as the record low in 1957 and represents the first sign of recovery of an industry and a species which was on the brink of extinction. Olympia oyster growers also reported that the summer of 1958 provided the best natural set of young oysters for many years, giving hope of increased native oyster production.

Other shellfish production figures for 1958, said Moore, showed that hardshell clam production of 1,825,000 lbs. was the best since 1940, and crab production of 12,164,000 lbs. was the third best in state history, being exceeded only in 1948 and 1949.

Washington state oyster production, in pounds and by areas and types, in 1958 was:

Pacific, Puget Sound	3,316,484
Pacific, Grays Harbor	605,395
Pacific, Willapa Harbor	5,922,890
Kumamotos	5,067
Olympia	30,430
Total oysters	9,880,266

Plantings of Imported Pacific Oyster Seed

YEAR	WASHINGTON Willapa Harbor	WASHINGTON Grays Harbor	WASHINGTON North Puget Sound	WASHINGTON South Puget Sound	OREGON Coos Bay	OREGON Yaquina and Alsea	OREGON Tillamook	California	British Columbia	TOTAL	YEAR
1947	22,933	5,230	6,025	4,117	8,200	. . .	7,157	750	(a) 2,292	56,704	1947
1948	14,685	1,150	5,562	1,962	3,400	1,550	1,005	850	2,675	32,839	1948
1949	17,357	7,425	6,429	4,748	290	1,930	2,500	350	4,844	45,873	1949
1950	16,512	1,550	6,830	5,745	4,425	1,300	3,575	565	5,204	45,706	1950
1951	18,569	2,250	8,685	7,119	6,749	1,500	1,274	350	(b) 5,404	51,900	1951
1952	40,526	. . .	15,335	7,954	455	. . .	5,625	250	(c) 3,584	73,729	1952
1953	31,669	4,900	22,583	(d)	. . .	. . .	(e) 8,810	250	1,435	69,647	1953
1954	32,087	7,325	12,210	10,528	. . .	. . .	(e) 953	2,526	1,576	67,205	1954
1955	30,424	846	8,132	11,273	250	176	386	9,850	(f) 1,875	63,212	1955
1956	50,113	1,333	6,155	16,458	.	.	(e) 1,000	24,538	3,240	102,837	1956
1957	22,388	6,066	6,652	(g) 9,035	.	.	(e) 1,143	11,200	3,382	59,866	1957
1958	16,083	5,610	1,708	(g) 15,945	. . .	. . .	(e) 2,619	11,830	3,360	57,155	1958

(a) Includes 100 cases planted in Alaska. (b) Includes 4 cases planted in Alaska. (c) Includes 7 cases planted in Alaska. (d) Included with North Puget Sound.
(e) Includes all Oregon Coast points. (f) Includes 18 cases planted in Alaska. (g) Includes 260 cases transshipped to Alaska in 1957 and 550 to Alaska in 1958.

NOTE: Seed plantings in 1958 include 1,202 cases of Kumamoto seed, 586 planted in Washington and 616 planted in Oregon; also 30 cases of Suminoe in Washington.

1958 - PACIFIC CANNED CLAM PACK - 1958

COMPANY	Cannery Location	1-lb. Talls 48	No. 10 or No. 2	1/2-lb. Flat 48	GRAND TOTAL Basis Halves 48
RAZOR CLAMS					
Aurora Packing Company	Big Point, Alaska	---	---	325	325
Big Point Seafood Company	Big Point, Alaska	---	30	125	155
Halferty Canneries, Inc.	Kodiak, Alaska	---	---	13,505	13,505
Mohawk Packing Company	Moclips, Washington	---	---	3,025	3,025
Plumb & Edney	Copalis, Washington	---	---	4,520	4,520
Queen Charlotte Canners, Ltd.	Massett, B.C.	---	---	2,907	2,907
Seaside Clam Company	Warrenton, Oregon	---	---	500	500
Shelter Cove Packing Company	Fleming Spit, Alaska	---	55	145	195
Simon Seafoods, Chas. L.	Kasilof, Alaska	---	---	32	32
TOTAL Razor Clams		---	85	25,084	25,164
HARDSHELL CLAMS					
Bugge Canning Company	Sequim	(b) 977	420	100	(a) 1,874
Guilford Canning Company	Port Townsend, Wash.	921	---	917	2,760
TOTAL Hardshell Clams		1,898	420	1,017	4,634
GRAND TOTAL, ALL CLAMS		1,898	505	26,101	29,798

(a) Also packed 1,875 cases clam nectar in cans and bottles. (b) Includes 735 cases of clams canned in 11-oz. glass jars, 24 to the case.

Price Dispute Cuts Clam Production

- Razor clam production in Alaska suffered a sharp setback in 1958 when rejection of the packers' price offers by clam diggers in the Copper River area resulted in complete closure of that principal producing area.

There were no significant operations in the Copper River district, which usually is the source of the major portion of the world's supply of this seafood specialty.

Inability of the razor clam industry to pay high prices for the raw material, despite the fancy character of the product, derives in large part from the competition of Atlantic Coast sea clams produced by mechanical dredging.

Imports of Japanese canned clams also have been commanding a significant part of the Pacific Slope market formerly enjoyed by razor clams.

- In an effort to broaden the clam production of the Pacific states, Milo and A. M. Day, respectively Washington and Oregon directors of fisheries, in 1958 imported clam "seed" of several species from Japan for planting in bays of these two states. Several years are expected to be required to indicate the possibilities of commercial culture of such introductions.

WASHINGTON RAZOR CLAM PRODUCTION

YEAR	COPALIS BEACH (Pounds)			GRAYLAND BEACH (Pounds)			LONG BEACH (Pounds)			KALALOCK, etc.	Total Catch All Beaches
	# of Digs	Total Catch	Per Dig	# of Digs	Total Catch	Per Dig	# of Digs	Total Catch	Per Dig	Total Catch-Pounds	(Pounds)
1937	20,695	546,486	26.4	9,026	285,317	31.6	2,986	99,591	33.4	46,478	997,872
1938	37,064	1,366,441	36.9	20,765	882,619	42.5	9,410	364,383	38.7	44,670	2,650,355
1939	23,903	846,633	35.4	11,182	433,796	38.7	11,321	653,992	57.7	30,692	1,965,113
1940	25,343	604,338	23.8	13,582	347.435	25.5	25,115	1,159,123	46.1	14,886	2,125,782
1941	12,389	406,393	32.8	2,643	111,819	42.3	3,307	222,129	67.2	806	741,147
Reserve	7,965	347,693	43.7	...	...	...	...	...	...	...	...
1942	5,088	143,148	28.1	814	26,283	32.3	3,941	174,104	44.2	*	343,535
1943	5,284	164,907	31.2	1,005	24,728	24.1	799	20,627	25.8	*	210,262
1944	8,485	409,374	48.2	2,705	105,425	38.9	2,651	108,030	40.7	*	622,829
1945	14,519	1,124,965	77.5	5,289	512,298	96.9	4,255	418,673	98.4	1,235	2,057,171
1946	12,387	922,516	74.5	10,548	461,773	43.8	11,109	663,776	59.8	*	2,048,065
1947	16,681	1,164,321	58.5	6,564	305,122	46.5	9,105	544,657	59.7	*	2,014,100
1948	18,263	687,612	37.6	6,642	249,869	37.6	8,489	268,862	31.8	50,350	1,256,693
1949	14,496	475,649	32.8	5,412	177,227	32.7	1,220	42,169	34.5	26,686	721,731
1950	11,878	231,879	26.9	...	...	...	...	...	...	5,303	237,182
1951	14,583	700,173	48.0	...	...	...	...	...	...	...	700,173
1952	17,630	651,733	37.0	...	...	...	...	...	...	39,595	691,328
1953	13,203	504,050	38.1	...	...	...	724	60,267	83.2	28,863	593,180
1954	8,407	550,524	63.2	...	...	...	152	11,759	77.3	35,018	597,301
1955	7,859	614,061	78.1	...	...	...	224	24,666	110.0	110,682	749,409
1956	10,054	416,884	41.3	...	...	...	**	92,947	**	187,028	696,859
1957	9,180	521,603	56.8				658	79,814	121.3	155,796	757,213
1958	12,549	790,201	63.0				115	6,569	57.1	109,271	906,041

NOTE: In 1950 the catch per dig was computed only on pounds sold, which equaled 5,205 digs for 140,017 lbs. 91,862 lbs. of the quota were not sold and the number of digs for this unsold portion does not agree with the digs and pounds sold.

*The small amount is included with Copalis Beach.
**Not available.

PACIFIC CLAM PACK IN PREVIOUS YEARS

YEAR	RAZOR CLAMS (Basis 48 halves per case)				YEAR	HARD SHELL CLAMS (Basis 48 halves per case)			
	Alaska	Wash. & Oregon	B.C.	TOTAL		Alaska	Wash.	*B.C	TOTAL
1929	28,270	63,526	13,050	104,846	1929	....	19,514	21,547	41,061
1930	33,937	54,746	12,623	100,324	1930	600	27,735	18,738	46,073
1931	43,460	53,412	8,658	105,440	1931	2,600	19,516	18,043	40,159
1932	69,147	46,002	8,457	123,606	1932	76	13,264	9,201	22,541
1933	38,213	38,772	....	76,985	1933	....	22,438	20,432	45,163
1934	31,655	30,232	....	61,656	1934	....	25,880	11,630	37,510
1935	34,864	53,057	....	87,921	1935	....	37,249	20,418	57,667
1936	29,900	49,692	....	79,592	1936	....	45,222	25,158	70,380
1937	29,044	20,373	....	49,417	1937	....	45,788	25,174	70,962
1938	42,305	64,167	....	106,472	1938	....	40,007	44,310	84,317
1939	35,258	60,205	....	95,463	1939	....	39,165	10,862	50,027
1940	41,556	51,705	....	93,261	1940	....	35,250	7,151	42,402
1941	22,736	27,629	....	50,365	1941	....	22,380	6,772	29,152
1942	46,703	3,999	5,568	56,270	1942	....	10,972	12,240	23,212
1943	48,692	1,732	5,821	56,275	1943	2,457	2,902	11,642	§34,001
1944	47,050	3,512	**	50,562	1944	11,630	19,863	**	§71,024
1945	43,476	38,152	**	81,628	1945	6,029	11,752	4,693	22,474
1946	51,594	51,063	**	102,657	1946	14,441	20,574	23,867	98,826
1947	24,726	42,970	....	67,696	1947	323	15,301	**	15,624
1948	34,425	11,720	....	46,145	1948	92	12,600	...	12,692
1949	42,103	4,482	923	47,518	1949	125	16,449	9,794 ½	26,368 ½
1950	54,534	849	1,583	56,966	1950	...	8,919	8,456	17,375
1951	44,082	11,014	3,196	58,292	1951	15	13,981	15,460	29,456
1952	25,960	9,843	***	35,803	1952	179	§§13,544	24,592	38,315
1953	39,234	8,449	5,183	52,866	1953	164	§§13,281	19,249	32,694
1954	31,463	5,541	8,413	45,417	1954	1,634	22,336	23,717	47,687
1955	45,931	10,386	...	60,117	1955	14	24,755	6,780	31,549
1956	34,267	6,005	3,539	43,811	1956	....	§22,117	**	22,117
1957	32,716	6,054	3,076	41,846	1957	....	§27,696	**	27,696
1958	14,212	8,045	2,907	25,164	1958	....	4,634	**	4,634

§ Total includes clams canned in California from clam meats produced in Mexico, 1700 cases in 1943, 39,531 cases in 1944, and 225,299 cases in 1945, and 39,944 cases canned in California in 1946.

§§ Includes a small amount canned in California.

* British Columbia figures for years 1932 to 1947 and 1951, 1952 and 1953 include some Razor Clams.

** British Columbia totals not available.

*** Included with Hardshell.

NOTE:- Data for current year from original sources. Data for previous years are from official sources, converted to Pacific standard cases of 48 Halves.

● Clam production in British Columbia also showed decline in 1958, with the province's total yield of clams counted as 2,300,000 lbs., all varieties.

Of the 1958 yield it is estimated that approximately 90% were hardshell clams. Razor clams, produced almost altogether in the Queen Charlotte Islands, were counted as only 164,000 lbs. in 1958, down from 187,000 lbs. the year before.

The course of clam production in British Columbia ran opposite to that of crabs and shrimp, the major shellfish items, although it followed in a measure the decline manifest in oysters, where there was a decline of 6,400 gals. to a yield of 62,000 gals., most of it from the bed operated by British Columbia Packers, Ltd., in Boundary Bay.

● Closure of the principal clam canning operations in the Copper River area of Alaska in 1958 naturally diverted attention to the opportunities in the lower Cook Inlet, Kodiak Island and Alaska Peninsula areas.

Although the time for stepping-up packing activities there was short, some substantial packs were made, and quality seemed altogether satisfactory.

Further attention to these Westward beaches as a future supply is anticipated, particularly in view of the development of further shellfish — crab and shrimp — packing operations in these regions by substantial interests.

ALASKA RAZOR CLAM PRODUCTION

(Gross weight in pounds of clams in the shell.)

Year	Cordova	Kodiak	Total
1951	1,535,119	955,582	2,490,701
1952	1,272,845	No operations	1,272,845
1953	1,507,857	No operations	1,507,857
1954	1,275,900	No operations	1,257,900
1955	1,377,109	1,360,841	2,737,950
1956	770,970	923,227	1,694,197
1957	1,986,087	903,049	2,889,136
1958	59,353	964,581	1,023,934

OREGON CLAM LANDINGS

YEAR	Pounds												
	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	[illegible]
1945	10,481	23,314	53,409	29,843	29,455	57,569	67,578	34,961	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1946	12,150	30,471	61,310	33,600	44,315	67,755	41,399	31,983	[illegible]	[illegible]	15,237	[illegible]	[illegible]
1947	26,936	33,572	47,126	31,537	56,325	38,980	66,384	33,868	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1948	19,953	[illegible]	33,408	38,856	61,816	50,750	55,484	40,914	15,631	11,212	[illegible]	[illegible]	[illegible]
1949	[illegible]	5,924	23,428	20,333	[illegible]	38,844	36,599	29,888	13,678	41,325	[illegible]	[illegible]	[illegible]
1950	9,204	15,981	19,317	31,079	[illegible]	107,309	45,183	52,794	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1951	6,929	[illegible]	34,942	41,729	[illegible]	72.691	80.390	36,295	[illegible]				[illegible]
1952	8,320	24,363	30,038	47,325	[illegible]	67.068	74,881	52,471	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1953	[illegible]	12,917	[illegible]	[illegible]	[illegible]	78.799	54,518	27,501	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1954	[illegible]	10,651	17,081	24,199	[illegible]	53.807	54,041	35,718	[illegible]	7,876	[illegible]	[illegible]	[illegible]
1955	14,001	12,842	12,855	[illegible]	[illegible]	58.461	54,726	34,819	16,231	[illegible]	[illegible]	[illegible]	[illegible]
1956	2,815	5,342	[illegible]	23,241	[illegible]	33.266	43,691	33,906	14,617	5,224	[illegible]	[illegible]	[illegible]
1957	7,331	7,463	14,454	16,662	33,278	28.014	30,113	16,248	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1958	3,342	6,345	14,339	12,740	[illegible]	30.014	25,593	15,890	[illegible]	*	*	*	[illegible]

*Figures not available

1958 Sees Solid Progress Toward Industrial Stability

● Hawaiian fisheries in 1958 moved solidly forward on the three courses which promise most for stability and extension of the industry:

1. Solution of the live bait supply problem;
2. Continuity of cannery fish supply;
3. Increased effectiveness of vessel operation.

Two years of below normal abundance, or availability, of the oceanic Skipjack on which the industry primarily depends pointed up the necessity for a vigorous attack on the problems which have handicapped the mid-ocean operations in the past, and which have imposed some sharp losses on enterprisers who have embarked upon fishery projects in Hawaiian waters without adequate experience or understanding as to how the potential could be tapped.

● Interestingly, the industry — and this is tantamount to saying Hawaiian Tuna Packers, Ltd.,—is moving along the three courses on its own volition, and its own investment. True it is that the attack on the bait problem in particular is being undertaken in close partnership with Pacific Oceanic Fisheries Investigations, an element of the U. S. Fish and Wildlife Service.

The tuna canning company for years has been interested in developing a dependable supply of live bait, and in 1958 it embarked on a promising line of development on its own, while assisting POFI with facilities and finances in some of its researches preliminary to possible commercial development.

Closeness of the cooperation and coordination between the industrial and the governmental research enterprises is noteworthy, and offers an example for business and governmental activities elsewhere.

Get Live Bait, Or Don't Go Fishing

● In fishing Skipjack in mid-ocean live bait is an essential. Even the Japanese, for all their knowledge, experience and ability, have not succeeded in catching such Skipjack by other means.

In 1958 notable progress was made in Hawaii toward the objective of live bait supplies independent of the limited natural resources of nehu, the indigenous fish which is the natural bait in the area, but whose numbers and reproductive potential are so small that expansion of the fishery based on nehu is definitely circumscribed.

These studies sought to develop additional live bait supplies by:

1. Culture of tilapia;
2. Culture of threadfin shad;
3. Introduction of Marquesan sardines to Hawaiian waters.

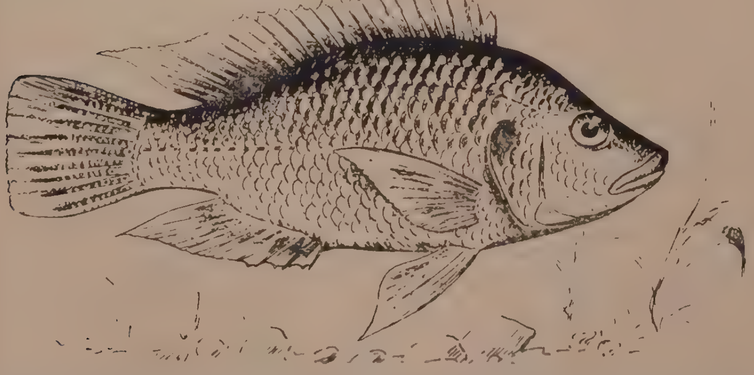
● Of these three undertaking that based on tilapia is most advanced. The fish were introduced into the islands a number of years ago, and have reproduced themselves in ponds and irrigation ditches. They are a freshwater fish which reproduce live young. Moreover, they move from freshwater to salt with no difficulty; and are extremely hardy, living in bait wells and tanks with almost no loss.

Tilapia culture has proved to be relatively simple, and cost is comparable with that of catching nehu. Hawaiian Tuna Packers, Ltd., are preparing to engage in tilapia culture on a commercial scale to supplement the supply of nehu. It is believed that with proper facilities the fish can be handled from ponds to vessel by means of pumping.

Principal drawback to tilapia as bait is the fact that the fish soon grow too large for bait purposes, and thus must be used during the comparatively short period when they are attractive to Skipjack and not too large to handle aboard the fishing vessels.

Threadfin shad is a California fish which seems to have possibilities for bait fish culture without the drawbacks of tilapia, but also without its hardiness. The fish has been successfully transported to the Hawaiian Islands and has proven highly attractive to the Skipjack, exceeding nehu in this respect. Its adaptability to culture and the cost of raising it for bait purposes remains to be tested.

Marquesan sardines have been imported from those islands in the bait



Tilapia, the tropical pondfish which, with its extraordinary ability to live in either fresh or salt water with almost no difficulty of acclimatization, and its resistance to rough handling, promises to be one of the answers to the perennial problem of live bait in the Hawaiian tuna fisheries.

tanks of POFI research vessels and have been released there. These fish, which are a prolific species with all the characteristics required of tuna bait, have not yet become established in Hawaiian waters in significant numbers. However, in 1958 several small individuals of this species were taken. As these were of smaller size than any released, they were taken as proof of successful reproduction by some of the early transplants.

No effort is being made to rear this marine species artifically, reliance being placed entirely on the possibility of establishing a population which would reproduce itself, and which eventually could be drawn upon for live bait.

Whether the sardine will become abundant enough to be economically significant should be answered in the next two or three years. If it does become abundant, the tuna bait supply in the islands might be doubled or tripled, for the sardine seems to prefer sandy, rocky beaches rather than the slightly brackish bays generally utilized by the local nehu.

Even more significant is the hardiness of the sardine as contrasted with the delicate nehu. Properly handled, the sardine can withstand long ocean voyages and would permit Hawaiian fishermen to venture further afield.

Of additional interest is the fact that the introduction of the sardine to Hawaii is the first known instance of successful transplanting of a purely marine species of fish.

Continuity of Cannery Fish Assured by Imports

- While Hawaiian Tuna Packers have always relied upon catches by the territorial fishing fleet for tuna supplies of canning fish, the scant catches of 1957 and 1958 pointed to the necessity of an adequate supply of fish, and also one sufficient to provide a reserve which could be drawn upon in times of reduced landings to enable the cannery to run with the continuity and productive rate required for profitable operations.

To attain this stability of supply and constant operation at profitable levels regardless of temporary fluctuation in local fish deliveries, the company has been supplementing the local deliveries with frozen imports from Japan. The volume of imports is only such as to enable the cannery to run consistently at a profitable rate. The local fleet has found that the resulting stability of their market and the assurance that a sound business would be there to provide them a market was definitely to the advantage of the Hawaiian fishermen themselves.

Increased Vessel Efficiency

- Studies by POFI and the Hawaiian Tuna Packers staff having demonstrated a definite progression of Skipjack from southeast to northwest along the Hawaiian Island chain, the company has embarked upon a program of developing facilities which will encourage the fishing vessels to follow the fish in their migration, with a succession of ports along the way where catches may be delivered and refrigerated for transport to Hawaii in refrigerated carriers, and where bait, ice and supplies may be secured.

Such facilities are expected to add to the efficiency and the earnings of local fleets of Hawaiian tuna craft resident at minor ports along the chain.

Peptic Digestion of Tuna Offal Aids Local Industry

- Uncooked offal from the Hawaiian Tuna Packers, Ltd., operations, consisting of the heads, gills and viscera, is being ground and digested by means of peptic enzymes to produce a clear, odorless, high-protein concentrate which is sold to Honolulu feed mixers for incorporation as a protein supplement high in Animal Growth Factor in feeds for poultry and livestock.

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MORE FISH and More Money for Them

● Westward trend of the North Pacific halibut fishery in 1958 was the commanding fact in a significant season.

Canadian vessels increased their share to 44.8% of the total catch, the highest percentage in history, while the 29,020,000 lbs. landed by the Canadian fleet was the largest tonnage it has ever taken. This was Fact No. 2.

Individual fares again set records—and again it was the Canadian fleet which landed them.

Aggregate production for the year—65,034,000 lbs., was the third largest in history, topped by 71,206,000 lbs. in 1954, first year of the split seasons in Area 2; and by 67,505,000 lbs. in 1956, when weather heavily favored the fleet.

● Recall that this fishery, which in 1958 was setting new records of volume and earnings and individual trips, is the same which in the Twenties was in a desperately depleted condition, with the resource facing the prospect of commercial extinction.

That it has been brought back to a higher level of productivity than ever in the past, even when the resource

Annual Catches of Halibut by Areas and Seasons

	*FIRST SEASON	SECOND SEASON	THIRD SEASON	INCIDENTAL PERMIT	TOTAL
AREA 1-A: SOUTH OF HECETA HEAD					
1954	411,000	...	...	7,000	418,000
1955	402,000	...	...	23,000	425,000
1956	430,000	...	...	...	430,000
1957	303,000	...	...	...	303,000
1958	131,000	...	...	...	131,000
AREA 1-B: HECETA HEAD TO WILLAPA BAY					
1954	100,000	58,000	...	39,000	197,000
1955	122,000	...	...	90,000	212,000
1956	132,000	...	...	42,000	174,000
1957	72,000	16,000	...	55,000	143,000
1958	176,000	...	...	14,000	190,000
AREA 2: WILLAPA BAY TO CAPE SPENCER					
1954	26,497,000	9,527,000	...	776,000	36,800,000
1955	22,203,000	5,302,000	...	1,156,000	28,661,000
1956	27,230,000	7,600,000	...	581,000	35,411,000
1957	25,658,000	4,262,000	...	706,000	30,626,000
1958	26,605,000	3,421,000	...	437,000	30,463,000
AREA 3-A: CAPE SPENCER TO SHUMAGIN ISLAND					
1954**	29,420,000	3,340,000	...	8,000	32,768,000
1955	27,399,000	1,458,000	...	...	28,857,000
1956	29,314,000	1,486,000	...	...	30,800,000
1957	28,892,000	...	...	...	28,892,000
1958	29,340,000	...	...	...	29,340,000
AREA 3-B: WEST OF SHUMAGIN ISLAND					
1954***	....	...	611,000	...	611,000
1955	....	...	933,000	...	933,000
1956	292,000	134,000	264,000	...	690,000
1957	1,391,000	...	...	...	1,391,000
1958	4,910,000	...	...	...	4,910,000

NOTE:- 1958 figures are preliminary and subject to further corrections. *Includes poundage caught in contravention of the regulations of all seasons of the year. **Area extended west to Sanak Island in 1954. ***Sanak Island westward in 1954. Figures in pounds.

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1958-Seattle Halibut Fleet Landings by Months-1958

MONTHS	Trips	HALIBUT NO. 1		HALIBUT NO. 2		LINGCOD		ROCKFISH		SABLEFISH		TOTAL	
		Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value	Pounds	Value
Dec. 1957	-	-	-	-	-	-	-	-	-	-	-	-	-
Jan. 1958	-	-	-	-	-	-	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-	-
April	8	214,100	$ 62,200	173,400	$ 41,400	-	-	-	-	-	-	387,500	$ 103,600
May	109	2,538,200	593,100	1,879,700	388,600	8,500	$ 500	1,200	$ 100	6,600	$ 800	4,434,200	983,100
June	111	2,264,900	613,600	2,097,500	486,100	2,700	100	8,300	400	18,400	2,800	4,391,800	1,103,000
July	60	1,154,200	325,000	1,281,800	298,300	-	-	4,000	200	110,300	13,100	2,550,300	636,600
August	40	669,300	191,600	946,500	227,600	-	-	8,700	400	170,000	21,100	1,794,500	440,700
Sept.	66	897,400	240,400	823,300	188,200	4,800	200	8,000	400	179,800	25,100	1,913,300	454,300
October	37	122,200	35,100	90,000	20,700	3,600	200	6,600	300	491,900	75,800	714,300	132,100
November	11	8,500	2,600			19,400	1,900	2,900	100	121,400	18,800	152,200	23,400
TOTAL	442	7,868,800	2,063,600	7,292,200	1,650,900	39,000	2,900	39,700	1,900	1,098,400	157,500	16,338,100	3,876,800
1957 Total	572	8,592,600	1,857,800	5,903,000	1,076,100	83,500	5,600	107,500	5,400	2,525,400	366,100	17,212,000	3,311,000
1956 Total	487	7,917,100	2,144,700	5,581,300	1,274,800	151,100	15,800	96,300	5,300	1,159,700	251,900	14,905,500	3,692,500
1955 Total	593	7,782,525	1,379,049	5,972,429	890,116	96,806	8,326	161,870	7,915	2,190,376	307,801	16,204,006	2,593,207
1954 Total	590	9,680,975	1,969,571	6,305,330	1,149,601	137,381	14,177	158,442	8,017	2,224,123	341,184	18,506,251	3,482,704
1953 Total	486	8,072,514	1,457,140	4,912,713	787,245	85,126	8,441	137,648	6,703	1,902,412	285,891	15,110,413	2,545,420
1952 Total	527	6,613,702	1,544,979	4,685,046	1,018,696	522,490	73,791	181,359	9,757	1,597,801	240,853	13,600,398	2,888,076
1951 Total	485	6,011,835	1,362,710	3,628,699	740,182	279,953	39,354	244,289	16,453	2,004,053	265,082	12,168,829	2,423,781
1950 Total	371	4,461,658	1,237,069	2,921,919	730,756	363,641	32,974	152,139	8,052	1,090,129	196,838	8,989,486	2,204,577
1949 Total	473	4,953,126	1,119,834	4,166,069	797,911	418,202	39,457	192,544	12,894	1,813,775	177,709	11,543,370	2,147,796
1948 Total	461	4,990,417	1,136,824	4,089,321	742,761	491,683	53,744	229,698	14,387	1,372,309	227,947	11,200,428	2,175,663
1947 Total	302	3,705,948	972,481	1,887,355	423,403	301,745	31,630	165,098	12,149	1,378,694	179,151	7,438,840	1,619,199
1946 Total	458	6,823,696	1,509,839	6,299,384	1,286,742	261,803	23,787	218,598	14,136	1,358,433	199,832	14,961,914	3,034,336
1945 Total	459	6,547,387	1,148,683	5,376,141	2,008,265	893,283	86,952	287,623	24,030	572,376	65,816	13,676,821	2,185,062

was being grievously depleted, is due in full to the effective application through the International Pacific Halibut Commission of biological research to the problem of wise-use conservation designed to maintain maximum sustainable yield while steadily rebuilding the capital stock of the industry—a living, propagating, growing population of deep sea fish.

Development of Westward Fishery Dominates 1958 Halibut History

● Following its avowed purpose of encouraging utilization of the halibut resources of Bering Sea and the banks bordering the Alaska Peninsula and the Aleutian Islands on the south, the Halibut Commission in 1958 established an early season for this area, baiting it with the opportunity for vessels to fish in the waters west of the Shumagin Islands and in the Bering Sea during the month of April. Thus the fleet capable of working those Westward waters was given 34 days of additional fishing, without catch quota, in advance of the season.

This same area was baited again in the fall with a late season which permitted vessels to fish there, again without quota, until October 16, an extension of 46 days beyond the end of the open season easterly of the Shumagins.

As result of this effective encouragement, the fleet took 4,910,000 lbs. of fish from this far Westward area, far more than had ever before been caught there.

● The April season saw 23 large vessels engaged in the waters west of the Shumagins, 13 Canadians and 10 Americans. They took nearly 2,000,000 lbs. of halibut in this special period, about half of it coming from the Bering Sea grounds.

North Pacific Halibut Seasons

YEAR	AREA 2			AREA 3			YEAR
	Opened	Closed	Fishing Days	Opened	Closed	Fishing Days	
1933	Feb. 1	Aug. 25	206	Feb. 1	Oct. 26	268	1933
1934	Mar. 1	Aug. 19	172	Mar. 1	Oct. 27	241	1934
1935*	Mar. 1	Sept. 6	159*	Mar. 1	Dec. 26	270*	1935
1936	Mar. 16	Aug. 10	148	Mar. 16	Nov. 3	233	1936
1937	Mar. 16	July 28	135	Mar. 16	Oct. 19	218	1937
1938	Apr. 1	July 29	120	Apr. 1	Oct. 29	212	1938
1939	Apr. 1	July 29	120	Apr. 1	Oct. 28	211	1939
1940	Apr. 1	July 13	104	Apr. 1	Sept. 26	179	1940
1941	Apr. 1	June 30	91	Apr. 1	Sept. 14	167	1941
1942	Apr. 16	June 29	75	Apr. 16	Sept. 25	163	1942
1943	Apr. 16	June 20	66	Apr. 16	Sept. 8	146	1943
1944**	Apr. 16	July 9	51**	Apr. 16	Nov. 30	194**	1944
1945	May 1	June 15	46	May 1	Sept. 24	147	1945
1946	May 1	June 11	42	May 1	Aug. 19	111	1946
1947	May 1	June 8	39***	May 1	Aug. 17	109***	1947
1948	May 1	June 1	32	May 1	July 11	72	1948
1949	May 1	June 3	34	May 1	July 12	73	1949
1950	May 1	June 1	32	May 1	July 5	66	1950
1951	May 1	May 28	28§	May 1	June 25	56	1951
1952	May 14	June 8	26§	May 14	July 12	58	1952
1953	May 17	June 9	24§	May 17	July 7	52	1953
1954	May 16	June 5	21§	May 16	July 12	58	1954
1955	May 12	June 4	24§	May 12	Aug. 4	84	1955
1956	May 20	June 26	38§	May 20	Aug. 23	97	1956
1957	May 1	June 17	48	May 1	Sept. 22	144	1957
1958	May 4	July 2	59	May 4	Aug. 31	119	1958

NOTE:- All dates given are for the season. Fishing times given are actual periods of fishing, with allowance made in certain years for delays in fishing due to strikes and disputes. Closure generally at midnight of dates given.

§ Does not include special post-season open fishing periods in sub-areas.
* Fleet tied-up voluntarily until April 1.
** Fleet tied-up until May 20 in protest against OPA ceiling prices.
*** Seattle fleet largely tied-up until July 1, due to crew share dispute.

PERCENTAGE DIVISIONS OF CATCH BETWEEN FLEETS

YEAR	CANADIAN			AMERICAN			YEAR
	Area 2	Area 3	All Areas	Area 2	Area 3	All Areas	
1958	49.6	40.6	44.8	50.4	59.4	55.2	1958
1957	46.3	34.7	40.3	53.7	65.3	59.7	1957
1956	42.6	33.5	38.1	57.4	66.5	61.9	1956
1955	45.5	30.8	37.6	54.5	69.2	62.4	1955
1954	47.6	29.9	38.9	52.4	70.1	61.1	1954
1953	55.8	28.0	42.9	44.2	72.0	57.1	1953
1952	56.1	24.2	39.6	43.9	75.8	60.4	1952
1951	53.9	19.6	38.0	46.1	80.4	62.0	1951
1950	52.7	15.6	32.8	47.3	84.4	67.2	1950
1949	51.4	17.9	33.7	48.6	82.1	66.3	1949
1948	51.7	18.0	33.6	48.3	82.0	66.4	1948
1947	62.3	25.3	43.7	37.7	74.6	56.3	1947
1946	50.7	13.0	30.7	49.3	87.0	69.3	1946
1945	47.0	12.2	28.0	53.0	87.8	72.0	1945
1944	42.7	8.2	25.0	57.3	91.8	75.0	1944
1943	44.5	5.8	24.1	55.5	94.2	75.9	1943
1942	39.0	7.7	22.2	61.0	92.3	77.8	1942
1941	44.2	8.4	24.7	55.8	91.6	75.3	1941
1940	43.5	5.9	23.8	56.5	94.1	76.2	1940
1939	44.8	10.0	26.5	55.2	90.0	73.5	1939
1938	41.3	10.4	24.7	58.7	89.6	75.3	1938
1937	42.6	7.5	23.8	57.4	92.5	76.2	1937
1936	38.8	7.0	21.7	61.2	93.0	78.3	1936
1935	40.8	5.3	21.3	59.2	94.7	78.7	1935
1934	40.2	3.0	20.5	59.8	97.0	79.5	1934
1933	33.9	2.7	17.7	66.1	97.3	82.3	1933
1932	27.1	2.0	14.4	72.9	98.0	85.6	1932

Willingness of the Canadians to work so far to Westward, and their ability to do so with some of their big, modern vessels, made a large contribution to the success of the commission's efforts to have the banks there fished, providing beside the economic benefit biological returns in tags recovered and data showing rates of growth and migration routes.

Beside the seasons established by the commission and the abundance of the halibut, another factor contributing importantly to the enterprise was the presence in the Shumagin Islands of an opportunity for vessels to discharge their trips locally and get back to the banks again for a productive continuity of operation. This was made possible by the Aleutian Cold Storage Co. plant at Sand Point, a strategic facility for the development of this Westward fishery.

Seattle's Early Landings Large

- Despite the fact that a large portion of the April halibut was delivered to the Aleutian plant at Sand Point, Seattle's landings during the early part of the season were very heavy, due in a significant degree to the delivery there of some large Canadian trips, attracted by the relatively high market at a time when the Vancouver market was down; while some of the

Pacific Halibut Catch by Areas and Nationalities

YEAR	– Pounds –										YEAR
	AREA 1	AREA 2**			AREA 3**			TOTAL American	TOTAL Canadian	GRAND TOTAL	
	American	American	Canadian	Total	American	Canadian	Total				
1932	902,271	16,026,631	5,960,640	21,987,271	21,146,037	451,761	21,597,798	38,074,939	6,412,401	44,487,340	1932
1933	722,254	14,880,259	7,649,400	22,529,659	22,887,941	637,672	23,525,013	38,490,454	8,286,472	46,776,926	1933
1934	1,541,258	13,360,103	9,004,714	22,364,817	22,829,989	726,658	23,556,648	37,731,350	9,731,372	47,462,722	1934
1935	*1,489,294	13,112,709	8,954,740	22,067,449	22,532,977	1,251,314	23,784,291	37,134,980	10,206,054	47,341,034	1935
1936	708,301	13,865,731	8,696,865	22,562,596	23,717,665	1,887,788	25,605,453	38,291,697	10,584,653	48,876,350	1936
1937	709,752	13,445,575	9,852,348	23,297,923	23,551,917	1,912,966	25,464,883	37,707,244	11,765,314	49,472,558	1937
1938	706,316	13,737,819	9,571,461	23,309,280	22,820,005	2,623,208	25,443,213	37,264,140	12,194,669	49,458,809	1938
1939	1,072,675	13,466,002	10,913,035	24,379,037	22,761,120	2,552,125	25,313,245	37,299,797	13,465,160	50,764,957	1939
1940	779,036	14,395,547	11,101,558	25,497,105	25,396,243	1,582,314	26,978,557	40,570,826	12,683,872	53,254,698	1940
1941	332,259	13,332,247	10,609,166	23,941,413	25,590,281	2,350,333	27,940,614	39,254,787	12,959,499	52,214,286	1941
1942	285,621	14,046,982	9,147,146	23,194,128	24,903,636	2,054,745	26,958,381	39,236,239	11,201,891	50,438,130	1942
1943	419,944	13,740,543	11,116,583	24,857,126	26,569,949	1,790,540	28,360,489	40,730,436	12,907,123	53,637,559	1943
1944	318,689	14,957,704	11,149,714	26,107,418	24,782,581	2,190,459	26,973,040	40,058,974	13,340,173	53,399,147	1944
1945	529,000	13,230,000	11,750,000	24,980,000	25,605,000	3,551,000	29,156,000	39,364,000	15,301,000	54,665,000	1945
1946	605,000	14,068,000	14,451,000	28,519,000	27,067,000	4,058,000	31,125,000	41,740,000	18,509,000	60,249,000	1946
1947	406,000	10,387,000	17,175,000	27,562,000	20,869,000	7,081,000	27,950,000	31,662,000	24,256,000	55,918,000	1947
1948	283,000	13,273,000	14,203,000	27,476,000	23,276,000	4,453,000	27,729,000	36,832,000	18,656,000	55,488,000	1948
1949	426,000	12,461,000	13,588,000	26,049,000	23,433,000	5,158,000	28,591,000	36,320,000	18,746,000	55,066,000	1949
1950	335,000	12,594,000	14,115,000	26,709,000	25,413,000	4,769,000	30,182,000	38,399,000	18,884,000	57,283,000	1950
1951	314,000	14,426,000	16,191,000	30,617,000	20,318,000	4,829,000	25,147,000	35,058,000	21,020,000	56,078,000	1951
1952	391,000	13,355,000	17,133,000	30,488,000	23,868,000	7,586,000	31,454,000	37,614,000	24,719,000	62,333,000	1952
1953	238,000	14,442,000	18,060,000	32,502,000	19,447,000	7,678,000	27,125,000	34,127,000	25,738,000	59,865,000	1953
1954	674,000	19,165,000	17,574,000	36,739,000	23,841,000	9,952,000	33,793,000	43,680,000	27,526,000	71,206,000	1954
1955	650,000	15,717,000	13,027,000	28,744,000	20,595,000	9,121,000	29,716,000	36,962,000	22,148,000	59,110,000	1955
1956	604,000	20,291,000	15,121,000	35,412,000	21,014,000	10,475,000	31,489,000	41,909,000	25,596,000	67,505,000	1956
1957	446,000	16,261,000	14,365,000	30,626,000	19,934,000	10,349,000	30,283,000	36,641,000	24,714,000	61,355,000	1957
1958	321,000	15,344,000	15,119,000	30,463,000	20,349,000	13,901,000	34,250,000	36,014,000	29,020,000	65,034,000	1958

NOTE: 1958 figures of the International Pacific Halibut Commission are preliminary and subject to further correction. In data for 1951 and thereafter Area 1 includes the catches from Areas 1A and 1B and Area 2 includes the catches from Areas 2A, 2B and 2C. In data for 1952 and thereafter Area 3 includes the catches from Areas 3A and 3B.

**Figures for Area 2 for 1937 and thereafter include halibut which were taken incidentally to cod fishing after the closure of Area 2, as allowed by regulations of the International Fisheries Commission for these years. Halibut so caught in 1957 was 706,000 lbs., and in 1958 was 437,000 lbs.

*This figure includes landings from Areas 1 and 4, as defined in the regulations for 1935. This amount should compare directly with the Area 1 catch of previous years, as it is not believed any fish were landed in 1935 from that portion of Area 4 which included Bering Sea.

1958 PACIFIC HALIBUT CATCH-AREAS 2 and 3 by Months

(Pounds)

MONTH	AREA 2*			AREA 3*			TOTAL		
	U. S.	Canada	Total ¶	U. S.	Canada	Total	U. S.	Canada	Total ¶
April	----	----	----	547,000	835,000	1,382,000	547,000	835,000	1,382,000
May	4,781,000	6,646,000	11,427,000	4,366,000	1,588,000	5,954,000	9,147,000	8,234,000	17,381,000
June	6,730,000	6,113,000	12,843,000	4,562,000	3,576,000	8,138,000	11,292,000	9,689,000	20,981,000
July	1,218,000	880,000	2,098,000	5,150,000	4,266,000	9,416,000	6,368,000	5,146,000	11,514,000
August	139,000	30,000	169,000	4,227,000	2,771,000	6,998,000	4,366,000	2,801,000	7,167,000
September	2,202,000	1,394,000	3,596,000	1,291,000	484,000	1,775,000	3,493,000	1,878,000	5,371,000
October	203,000	33,000	236,000	206,000	381,000	587,000	409,000	414,000	823,000
November	71,000	23,000	94,000	----	----	----	71,000	23,000	94,000
TOTALS	15,344,000	15,119,000	30,463,000	20,349,000	13,901,000	34,250,000	35,693,000	29,020,000	64,713,000

*Area 2 includes all grounds between Willapa Bay and Cape Spencer and Area 3 all grounds west of Cape Spencer including the present Areas 3A and 3B.

¶ These totals include 437,000 lbs. of halibut which were taken incidentally to blackcod fishing in Area 2, as allowed by the 1958 Regulations of the International Pacific Halibut Commission.

This table does not include the partially estimated amount of 321,000 lbs landed from Areas 1A and 1B.

NOTE:- 1958 figures of the International Pacific Halibut Commission are preliminary and subject to further correction.

heavy Canadian trips arrived during a national holiday week-end when the market at Vancouver was closed.

As result, Seattle shortly after the middle of May experienced two days with sales above 1 million pounds each, and actually handled 2.6 million pounds in one three-day spate of fish.

"Nursery Areas" Opened in 1958

● Beside the early Westward season, a feature of the 1958 regulations was the opening to fishing of the "nursery grounds" in the Timbered Islet and Masset areas, which had been closed to fishing since the first halibut treaty went into effect in 1924. That treaty provided specifically for the closure of these two areas, believed to be marshalling grounds for halibut of sub-commercial sizes. Whether that was ever actually the case is not plain, but the fish taken by the fishing on these long-closed banks in 1958 proved to be approximately normal in their size distribution.

PACIFIC HALIBUT CATCH SINCE 1914

Pounds

YEAR	AMERICAN VESSELS					CANADIAN VESSELS				GRAND TOTAL	YEAR
	Seattle	Prince Rupert **	Alaska	Oregon & California ***	Total American	Pr. Rupert, Butedale, etc.	Vancouver New Westm., Vanc. I., Namu	American Ports	Total Canadian		
1914	41,825,575	1,877,000	5,175,993	...	48,878,568	8,742,100	4,991,500	...	13,733,600	62,612,168	1914
1915	33,133,313	11,323,500	5,561,577	...	50,018,390	8,444,715	4,791,000	...	13,235,715	63,254,105	1915
1916	20,259,446	13,810,895	6,961,628	...	41,031,969	6,710,500	5,258,000	...	11,968,500	53,000,469	1916
1917	22,884,434	14,216,030	6,792,138	...	43,892,602	5,839,030	3,686,000	...	9,525,030	53,417,632	1917
1918	16,455,564	10,790,500	6,076,500	...	33,322,564	4,338,000	1,552,000	...	5,890,000	39,212,564	1918
1919	16,968,639	13,000,700	7,366,991	...	37,336,330	6,120,000	1,957,000	...	8,077,000	45,413,330	1919
1920	19,692,915	14,676,400	8,035,000	...	42,404,315	7,190,000	2,010,600	. .	9,200,600	51,604,915	1920
1921	17,127,783	19,531,400	8,784,029	...	45,443,212	8,906,000	4,149,400	...	13,055,400	58,498,612	1921
1922	14,602,780	17,248,900	4,772,038	...	36,623,718	8,510,000	3,559,500	...	12,069,500	48,693,218	1922
1923	12,017,312	20,366,600	8,283,590	...	40,667,502	9,392,900	3,707,200	...	13,100,100	53,767,602	1923
1924	11,889,080	20,913,200	12,663,776	. .	45,466,056	8,181,500	4,043,500	...	12,225,000	57,691,056	1924
1925	11,197,474	22,434,800	9,752,465	400,000	43,784,739	6,181,600	3,207,600	...	9,389,200	53,169,939	1925
1926	10,156,630	20,483,800	14,011,005	600,000	45,252,435	6,869,200	4,156,500	...	11,025,700	56,278,135	1926
1927	11,917,150	18,664,400	15,386,766	400,000	46,818,316	6,941,000	1,523,400	...	8,464,400	55,282,716	1927
1928	13,788,775	20,389,700	9,623,700	760,000	44,562,175	8,349,500	1,541,500	...	9,891,000	54,453,175	1928
1929	12,359,170	20,599,200	12,882,426	1,103,888	46,890,984	8,045,100	1,747,800	...	9,792,900	56,683,884	1929
1930	12,671,470	16,997,800	11,389,756	930,000	41,989,832	7,006,600	1,475,200	...	8,481,800	50,471,632	1930
1931	15,087,672	10,573,300	9,638,150	953,000	36,252,122	6,202,400	1,424,800	...	7,627,200	43,879,322	1931
1932	22,000,296	10,633,800	4,568,829	1,050,000	38,253,025	4,227,700	2,023,200	...	6,250,900	44,503,925	1932
1933	22,263,992	8,757,300	6,781,451	679,066	38,461,454	5,649,200	2,630,700	...	8,300,255	46,761,709	1933
1934	20,718,328	8,591,983	7,132,059	1,288,980	37,731,350	7,946,499	1,784,873	...	9,731,372	47,462,722	1934
1935	22,388,941	6,927,014	6,538,114	1,280,911	37,134,980	7,636,694	2,563,276	...	10,206,054	47,341,034	1935
1936	22,726,642	6,204,645	8,654,364	706,646	38,291,697	8,111,472	2,468,936	...	10,584,653	48,876,350	1936
1937	21,351,684	7,017,857	8,646,993	690,710	37,707,244	9,032,623	2,711,562	...	11,765,314	49,472,558	1937
1938	20,995,966	7,324,178	8,220,752	704,734	37,264,140	8,617,890	3,384,569	192,210	12,194,669	49,458,809	1938
1939	20,070,259	9,319,026	6,897,208	1,013,304	37,299,797	9,904,372	3,466,362	94,428	13,465,162	50,764,957	1939
1940	18,863,872	11,210,740	9,481,893	1,014,321	40,570,826	9,323,133	3,355,516	5,223	12,683,872	53,254,698	1940
1941	19,095,973	10,036,640	8,998,580	1,123,594	39,254,787	8,708,902	4,173,967	76,630	12,959,499	52,214,286	1941
1942	14,865,306	13,430,294	10,169,162	771,477	39,236,239	5,997,895	5,203,996	65,680	11,201,891	50,438,130	1942
1943	13,278,341	12,309,595	14,096,356	1,046,144	40,730,436	6,281,348	6,487,010	138,765	12,907,123	53,637,559	1943
1944	11,881,680	5,444,672	21,853,111	879,511	40,058,974	8,458,974	4,823,502	59,211	13,340,173	53,399,147	1944
1945	12,651,000	4,571,000	21,049,000	1,093,000	39,364,000	11,606,000	3,503,000	192,000	15,301,000	54,665,000	1945
1946	13,932,000	4,384,000	22,502,000	928,000	41,740,000	15,117,000	2,919,000	473,000	18,509,000	60,249,000	1946
1947	5,816,000	2,585,000	22,422,000	841,000	31,664,000	17,868,000	6,117,000	270,000	24,255,000	55,919,000	1947
1948	9,941,000	2,479,000	23,790,000	621,000	36,831,000	13,665,000	4,813,000	179,000	18,657,000	55,488,000	1948
1949	10,017,000	4,205,000	21,473,000	625,000	36,320,000	13,745,000	4,318,000	683,000	18,746,000	55,066,000	1949
1950	8,663,000	3,683,000	25,265,000	788,000	38,399,000	15,237,000	3,577,000	70,000	18,884,000	57,283,000	1950
1951	11,100,000	4,359,000	14,034,000	[illegible]	[illegible]	15,717,000	4,742,000	561,000	21,020,000	[illegible]	1951
1952	13,152,000	3,037,000	20,862,000	563,000	37,614,000	19,275,000	4,315,000	1,129,000	24,719,000	62,333,000	1952
1953	14,598,000	2,020,000	17,033,000	476,000	34,127,000	18,351,000	6,296,000	1,019,000	25,738,000	59,865,000	1953
1954	17,626,000	4,224,000	20,769,000	1,061,000	43,680,000	15,324,000	9,916,000	2,286,000	27,526,000	71,206,000	1954
1955	16,269,000	2,751,000	17,205,000	737,000	36,962,000	12,393,000	7,458,000	2,297,000	22,148,000	59,110,000	1955
1956	16,148,000	3,001,000	21,988,000	772,000	41,909,000	13,465,000	9,452,000	2,679,000	25,596,000	67,505,000	1956
1957	15,538,000	1,869,000	18,661,000	573,000	36,641,000	14,758,000	7,545,000	2,411,000	24,714,000	61,355,000	1957
1958	15,779,000	578,000	19,236,000	421,000	36,014,000	15,737,000	8,138,000	5,145,000	29,020,000	65,034,000	1958

NOTE:- 1958 figures of the International Pacific Halibut Commission are preliminary and subject to further correction.

* Includes the very small amount of fish landed at Neah Bay, Everett and elsewhere on Puget Sound.

** Includes the fish occasionally landed by American vessels at other Canadian ports.

*** Landings in Oregon and California not segregated prior to 1925.

SIZE OF HALIBUT FLEET

(INCLUDES REGULAR HALIBUT BOATS ONLY)

YEAR	UNITED STATES FLEET				CANADIAN FLEET				COMBINED FLEETS			
	Area 2	Area 2	Area 3	Area 3	Area 2	Area 2	Area 3	Area 3	Area 2	Area 2	Area 3	Area 3
	No. of Boats	No. of Men	No. of Boats	No. of Men	No. of Boats	No. of Men	No. of Boats	No. of Men	No. of Boats	No. of Men	No. of Boats	No. of Men
1943	247	1,037	107	942	162	767	3	24	409	1,804	110	966
1944	278	1,056	84	753	278	831	4	34	485	1,887	88	767
1945	316	1,253	97	837	175	867	3	26	491	2,120	100	863
1946	373	1,373	116	921	187	952	5	41	560	2,325	121	962
1947	350	1,302	119	887	215	1,168	5	40	565	2,470	124	927
1948	403	1,496	139	1,095	249	1,221	5	39	652	2,717	144	1,134
1949	374	1,452	149	1,134	225	1,153	5	41	599	2,605	154	1,175
1950	426	1,654	150	1,147	235	1,210	5	39	661	2,864	155	1,186
1951	394	1,574	148	1,091	270	1,346	8	66	664	2,920	156	1,156
1952	295	1,243	134	885	233	1,211	8	64	528	2,454	142	949
1953	273	1,147	139	883	229	1,151	20	159	502	2,298	159	1,042
1954	289	1,238	121	720	224	1,149	20	167	513	2,387	141	887
1955	281	1,209	122	698	189	959	25	203	470	2,168	147	901
1956	285	1,213	99	548	155	829	17	134	440	2,042	116	682
1957	351	1,402	110	595	171	859	27	206	522	2,261	137	801
1958	276	1,135	121	645	140	712	37	291	416	1,847	158	936

The composition of the catches proved to the Halibut Commission staff that the populations of the Massett and Timbered Islet grounds were ripe for cropping.

Huge Halibut Trips Taken

● The 1958 season was notable for the size of some of the trips landed—and not all of them were taken to Westward, either; although it must be admitted that the "*Polaris* Spot" on the Bering Sea edge was "hot" again, although it did not yield at the remarkable rate which Capt. Arne Einmo encountered there on his historic trip.

The fish taken far to Westward tended to be large, but not excessively so, and in general were regarded as typical prime Westerns.

Although some above-100,000-lb. trips were landed by American vessels—the *City of Seattle* with 108,000 lbs., for example, it remained for the Canadians really to rack up the records.

Best trip ever landed by a North Pacific longliner was the 153,000 lbs. delivered to Prince Rupert early in July by the *Silver Bounty*, Capt. John H. Johnson.

Even more surprising than the volume of the fare was the fact that it was taken on the Horseshoe Ground in central Hecate Strait, possibly the most heavily-fished of any halibut bank. She took the phenomenal fare in a trip which logged 12 days, dock-to-dock.

When *Silver Bounty* set her gear on the Horseshoe Ground she evidently met a newly-arrived wave of halibut which appeared on the bank from wherever it is that halibut are when you can't find them.

The catch was composed of 100,000 lbs. of large, another unusual circumstance, with 51,000 lbs. of mediums and only 2,000 lbs. of chickens. With its big proportion of desirable large

1958-HALIBUT ARRIVALS AT ALASKA PORTS*-1958

MONTH	(Data in Pounds)						Misc. S. E. Alaska	Central+ Alaska	TOTAL Pounds
	Ketchikan	Wrangell	Petersburg	Sitka	Juneau	Pelican			
April	21,000	-	-	-	-	-	-	637,000	658,000
May	966,000	248,000	921,000	334,000	463,000	345,000	126,000	1,004,000	4,407,000
June	2,603,000	232,000	1,059,000	405,000	657,000	812,000	189,000	721,000	6,678,000
July	2,019,000	17,000	580,000	158,000	468,000	607,000	20,000	1,040,000	4,909,000
August	1,043,000	-	282,000	189,000	246,000	593,000	-	1,025,000	3,378,000
September	290,000	24,000	586,000	66,000	241,000	76,000	7,000	548,000	1,838,000
October	26,000	-	21,000	15,000	13,000	11,000	-	104,000	190,000
November	6,000	-	3,000	10,000	6,000	5,000	-	-	30,000
1958 TOTAL	6,974,000	521,000	3,452,000	1,177,000	2,094,000	2,449,000	342,000	5,079,000	22,088,000
1957	5,741,000	660,000	3,703,000	1,359,000	2,364,000	1,879,000	327,000	3,835,000	19,868,000
1956	7,639,000	727,000	4,151,000	1,772,000	3,049,000	2,215,000	1,154,000	3,200,000	23,907,000
1955	3,811,000	298,000	3,393,000	1,040,000	2,679,000	2,621,000	397,000	5,026,000	19,265,000
1954	5,611,000	376,000	4,117,000	2,382,000	3,382,000	3,040,000	585,000	3,408,000	22,901,000
1953	4,823,000	368,000	2,847,000	1,662,000	1,706,000	2,829,000	214,000	3,625,000	18,074,000*
1952	7,696,000	430,000	3,022,000	2,023,000	2,645,000	2,244,000	139,000	2,661,000	20,860,000
1951	5,170,000	496,000	2,869,000	1,985,000	2,386,000	2,294,000	192,000	3,642,000	19,034,000
1950	6,992,000	479,000	3,140,000	3,103,000	3,823,000	3,351,000	75,000	4,372,000	25,265,000
1949	7,628,000	499,000	2,675,000	2,008,000	2,473,000	2,102,000	41,000	4,689,000	22,115,000
1948	7,700,000	716,000	2,548,000	2,990,000	2,797,000	2,362,000	114,000	4,742,000	23,969,000
1947	7,503,000	643,000	2,828,000	2,634,000	5,432,000**	...	...	3,389,000	22,429,000
1946	9,918,000	699,000	2,943,000	2,684,000	4,363,000**	...	...	2,279,000	22,886,000
1945	2,277,000	585,000	2,161,000	2,773,000	4,363,000**	...	...	2,221,000	20,887,000
1944	9,554,962	1,008,312	2,486,084	2,694,073	3,540,637	...	...	2,569,043	21,853,111
1943	7,450,730	727,157	1,936,825	1,691,697	2,289,947	...	...	...	14,096,356
1942	5,749,469	469,037	1,559,221	834,046	1,816,148	...	...	...	10,169,162
1941	3,367,567	375,135	1,463,801	2,173,697	1,616,928	...	...	...	8,998,580
1940	3,798,134	400,735	1,718,490	1,370,412	1,984,511	..	..		9,481,89
1939	2,263,927	279,660	1,460,190	931,557	2,001,999	...	...	...	6,897,208
1938	2,828,111	414,928	1,965,843	906,852	2,039,814	...	...	...	8,220,752
1937	3,642,996	590,834	1,352,807	893,602	1,832,533	...	...	...	8,646,993
1936	3,556,364	494,221	1,979,813	945,933	1,541,674	...	...	...	8,654,364
1935	3,752,488	112,060	474,672	667,811	1,341,864	...	...	...	6,538,114
1934	3,155,474	284,950	1,002,792	1,172,264	1,463,761	...	...	...	7,132,059

* Landings by Canadian vessels in Alaska included, which were 2,852,000 in 1958, 1,207,000 in 1957, and 1,919,000 in 1956.

+ Port Williams, Seldovia, Anchorage, Sand Point, Seward and Cordova

**International Pacific Halibut Commission tagging.

NOTE:- 1958 figures of the International Pacific Halibut Commission are preliminary and subject to further correction.

fish, the trip sold for an average of 22c.

● *Silver Viking,* another Canadian, commanded by Capt. Mal Mjos, only a few days before the *Silver Bounty's* record had delivered 141,000 lbs., which earned $3,000 shares for each of the crew. The *Silver Viking* is one of the new refrigerated seawater vessels with capacity for 208,000 lbs. of chilled halibut in her tanks.

Just to prove that fish are where you find them, the *Silver Viking* took her trip in Bering Sea, about as far from the scene of the *Silver Bounty's* great fishing as you can get. About 150 miles from Unimak Island she encountered heavy fishing, the crew at one time working 24 hours without stopping.

Significantly, all of the big catches seem to have been made on the relatively new "19′ gear," with the gangions spaced 19′ apart and armed with heavy wire Mustad hooks, which seem to be necessary properly to hold the big halibut encountered in building-up these record fares.

Despite the heavy catches recorded from some grounds, Shelikof Strait, which had yielded so heavily in the 1957 season, declined sharply, proving that you can't catch 'em twice.

Halibut Price Rises in 1958

OREGON AND CALIFORNIA HALIBUT LANDINGS

1958

MONTH	California Pounds	Oregon Pounds
May	15,000	104,000
June	15,000	161,000
July	15,000	25,000
August	15,000	111,000
September	15,000	91,000
October	15,000	105,000
November	10,000	
TOTAL	100,000	597,000

NOTE - 1958 figures of the International Pacific Halibut Commission are preliminary and subject to further correction, particularly California's which include some estimation

● Price as well as volume showed substantial rise in the 1958 halibut year. The gain of 3,679,000 lbs. in overall landings was matched by an advance in market pricing at all ports.

In Seattle the 1958 landings averaged 24.5c per lb., as compared with 20.2c per lb. the previous year for lesser volume.

The Canadian halibut vessels landing at Seattle in 1958 delivered 1,800,000 lbs., for which they averaged 24.6c, vs. landings of about 800,000 lbs. in 1957, when the average price realized was 19.7c.

Abstention Case Attacked

● Management of the North Pacific halibut resource by the United States and Canada, while Japan abstains from exploiting this conserved population under the terms of the International North Pacific Fisheries Commission, was brought under attack late in 1958 at the meeting of the North Pacific Fisheries Commission in Tokyo.

This was the first year that the conditions under which Canada and the United States manage the abstained stock of halibut could be examined by the commission. The Japanese members of the special committee examining qualifications for abstention brought the cases filed by the United States and Canada sharply under attack, contending that it did not demonstrate continued qualification of the halibut resource for abstention from fishing by Japan. However, the other countries rejected the Japanese objections and under the treaty that nation's fishermen will continue to abstain from fishing halibut in the coastal waters of North America.

While not directly related to this matter, an interesting aspect of 1958 was the offering of frozen halibut in the British market by Japanese exporters. While it is true that in the Thirties the Japanese produced some halibut along the Kuriles, these banks are now believed to be under Soviet sovereignty. Thus the source of the halibut offered by Japanese exporters has been a matter of some interest in the United States and Canada.

1958-Halibut Arrivals at British Columbia Ports*- 1958

(Pounds)

MONTH	Prince Rupert Butedale§	Vancouver Namu	District No. 3 and Victoria	Total Canadian	U.S. Vessels at Prince Rupert	GRAND TOTAL
April	....	70,000	...	70,000	....	70,000
May	4,540,000	1,804,000	958,000	7,302,000	229,000	7,531,000
June	5,988,000	2,727,000	517,000	9,232,000	303,000	9,535,000
July	2,616,000	1,070,000	158,000	3,844,000	18,000	3,862,000
August	1,477,000	363,000	26,000	1,866,000	....	1,866,000
September	997,000	340,000	61,000	1,398,000	25,000	1,423,000
October	113,000	17,000	10,000	140,000	3,000	143,000
November	6,000	7,000	10,000	23,000	....	23,000
1958 TOTAL	15,737,000	6,398,000	1,740,000	23,875,000	578,000	24,453,000
Previous Years						
1957	14,758,000	6,205,000	1,340,000	22,303,000	1,869,000	24,172,000
1956	13,465,000	8,013,000	1,440,000	22,918,000	3,001,000	25,919,000
1955	12,393,000	5,628,000	1,830,000	19,851,000	2,751,000	22,602,000
1954	15,289,000	6,712,000	3,252,000	25,253,000	4,126,000	29,379,000
1953	17,894,000	4,979,000	1,774,000	24,647,000	1,989,000	26,636,000
1952	19,275,000	2,662,000	1,653,000	23,590,000	3,006,000	26,596,000
1951	15,717,000	2,819,000	1,923,000	20,459,000	4,381,000	24,840,000
1950	15,237,000	1,689,000	1,888,000	18,814,000	3,684,000	22,498,000
1949	13,745,000	2,129,000	2,189,000	18,063,000	4,205,000	22,268,000
1948	13,665,000	2,641,000	2,172,000	18,478,000	2,479,000	20,957,000
1947	17,868,000	4,298,000	1,819,000	23,985,000	2,585,000	26,570,000
1946	15,117,000	2,023,000	896,000	18,036,000	4,378,000	22,413,000
1945	11,606,000	2,340,000	1,163,000	15,109,000	4,571,000	19,680,000
1944	8,457,460	3,604,517	1,218,985	13,280,962	5,444,672	18,725,634
1943	6,381,348	5,155,435	1,331,575	12,907,123	12,337,126	25,018,553
1942	5,910,928	4,035,866	1,104,459	11,201,891	13,415,795	24,467,048
1941	8,625,079	3,139,021	1,014,192	12,959,499	10,033,720	28,812,612
1940	9,310,667	1,999,314	1,002,401	12,683,872	11,210,740	25,632,122
1939	9,904,289	3,018,504	445,500	13,465,162	9,319,026	22,687,319
1938	8,619,526	2,794,557	586,619	12,194,669	7,324,178	19,343,390
1937	9,026,372	2,333,370	377,796	11,765,314	7,015,057	18,773,489
1936	8,619,526	2,054,167	399,200	10,584,653	6,205,377	16,772,209
1935	7,638,704	2,246,196	349,300	10,206,054	6,927,581	17,159,781
1934	7,946,499	1,513,273	271,600	9,731,372	8,591,983	18,323,355

*Does not include landings by Canadian vessels in Oregon of 276,000 lbs. in 1958; in Alaska of 2,852,000 in 1958; 1,207,000 in 1957; 1,919,000 in 1956; and in Washington of 2,017,000 in 1958; 1,204,000 in 1957; 760,000 in 1956.

§ Includes landings from minor British Columbia ports.
NOTE:- 1958 figures of the International Pacific Halibut Commission are preliminary and subject to further corrections.

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Price and Pressure Generate Increased Production

- Strong prices, with negligible carryover and the promise of an active market sent 1958 mild curing operations into new fields, from which were produced 8,803 tierces, up from 5,945 tierces the year before.

The new fields were in part geographical, with Prince William Sound and the Bering Sea coast contributing to the Alaska total; and in part the Silver and Fall salmon, which have not been utilized to so great a degree in years.

Poor troll fishing for King salmon on the Oregon-Washington coast was offset by better luck elsewhere, with a pack of this species reaching 6,866 tierces, about 1,000 above the previous year, but with that exception still the smallest since 1943.

- All geographical sections of the Pacific Coast shared in the gains made in 1958 mild cure production, but so far as Puget Sound was concerned this was due entirely to the attention paid Silvers.

The same is true with respect to Southeast Alaska, although the yields of the two new producing areas served to carry the pack for Alaska as a whole above the 2,385 tierces of the year before.

- Silvers to the number of 1,768 tierces were cured in 1958, the largest pack of this variety since about 3,000 tierces were put up in the fall of 1945 as the trade surged into full production at the end of the war, and when some 200 tierces of Sockeye were also mild cured.

In recent years the annual pack of Silvers has run about 100 tierces.

Silver curing was stepped up sharply in Alaska, British Columbia and Puget Sound.

- One of the most interesting features of 1958 mild curing was the pack of 169 tierces of Falls—by far the largest pack of this species made in recent years, and probably in the entire history of mild curing.

In the past *Pacific Fisherman Yearbook,* while usually noting production of mild cured Falls, did not include them in the statistics of the industry's production, inasmuch as the tierces of this variety cured were almost wholly intended for smoking by the company curing them. Thus they did not enter into the mild cured salmon trade.

In 1958, however, the mild cured Falls in large degree were packed for sale, or on order of smokers, and for this reason it seems proper to include them in the total amount of salmon cured for subsequent smoking.

Whether Falls — the frozen and cured term for what the canner calls

1958 -MILD CURED SALMON- 1958

Company	Tierces, 825 lbs. net			
	King	Silver	Fall	TOTAL
ALASKA				
Alaska Coast Fisheries	59	27	...	86
Booth Fisheries Corporation	77	12	...	89
Halibut Producers Cooperative	547	53	...	600
Kayler-Dahl Fish Co.	102	...	...	102
Ketchikan Cold Storage	117	7	...	124
New England Fish Co.	308	25	...	333
Northern Products Corp.	493	166	...	659
Oxenberg Bros., Inc.	38	26	...	64
Pick-Shapiro Fisheries	29	37	...	66
Seaboard Fish Company	192	27	...	219
Sebastian-Stuart Fish Co.	4	...	...	4
Vita Food Products Co.	725	124	...	849
Washington Fish & Oyster Co.	43	1	...	44
Whitney & Company	212	120	4	336
Whiz Fish Products Co.	40	34	...	74
Yukon River	100	...	...	100
TOTAL ALASKA	3,086	659	4	3,749
BRITISH COLUMBIA				
British Columbia Packers, Ltd.	103	174	...	277
Canadian Fishing Co.	45	...	...	45
Fishermen's Cooperative Federation	224	4	...	228
Sea Food Products, Ltd.	79	131	...	210
TOTAL BRITISH COLUMBIA	451	309	...	760
PUGET SOUND				
Booth Fisheries Corporation	130	27	...	157
Eardley Fisheries Co.	500	220	...	720
Everett Fish Company	8	..	21	29
Halibut Producers Cooperative	3	29	...	32
McCallum-Legaz Fish Co.	59	11	...	70
New England Fish Co.	78	35	25	138
San Juan Fishing & Packing Co.	199	182	..	381
Seaport Fish Co.	877	203	43	1,123
Washington Fish & Oyster Co.	314	85	67	466
Whitney & Company	57	8	9	74
TOTAL PUGET SOUND	2,275	800	165	3,240
OREGON				
New England Fish Co.	209	..	...	209
CALIFORNIA				
Tom Lazio Fish Co.	16	...	.	16
Others, estimated	829	..	...	829
TOTAL CALIFORNIA	845	...	...	845
TOTAL PACIFIC COAST	6,866	1,768	169	8,803

NOTE:- Contrary to the practice in previous years, mild cured Falls have been included in the statistics this year because of the quantity produced, and because most of them actually entered into the mild cured salmon trade, rather than being used for the curer's own smoking requirements.

MILD CURE

"Chums"—*Oncorhynchus keta*—will become a continuing factor in the supply of mild cured salmon is something which only the future can tell; and the decision of the future doubtless will rest in some degree at least upon the adequacy of the technology which seeks to utilize Falls in the development of a new item for the growing group of fish specialties. Refrigerated facilities in food stores generally, and particularly the perfection of packaging through the medium of films, foils, fiber, plastic and glass, have made a growth industry of fish specialties, and Falls may prove adaptable to something more in the cured fish field than "Indian smoked" salmon.

● Mild cured salmon operations of 1958 were characterized by:

(1) Pressure to produce, resulting from the scant supply on hand from the low pack of 1957;

(2) Extremely high prices paid to trollers as buyers sought to stimulate production and compete for what fish were available;

(3) Development of new sources of splitters in Alaska.

Success of the explorations was remarkable, and almost inevitably will lead to further activity in those areas — and perhaps others — during the 1959 season.

● First of the new splitting operations was that based on Port Moller, where Vita Food Products, Inc., established a station under the direction of H. S. Finch, taking the early King salmon run from a small fleet of local boats fishing in Port Moller, Nelson Lagoon and Bear River.

The enterprise produced about 10,000 King salmon of excellent quality, despite the limited character of the fishing fleet.

● Surprising run of King salmon went to the Nushagak River of Bristol Bay in 1958, producing a catch of 85,219 fish, the highest of this species taken from the Nushagak since 1929. These fish were used primarily for canning or salting, and produced a pack of about 24,000 full cases.

However, much of the King salmon run to the Nushagak passes before the cannery market opens and it is possible that the catch of recent years might have been significantly larger if outlet for the catch had been available earlier.

Examination of the Nushagak King catch for the past four years shows that, beside the bumper year of 1958, the preceding 1955, 1956 and 1957 seasons yielded good catches, all of them better than any since 1930. It is significant also that there has been a

Astoria Landings and Receipts by Months—1958

(Pounds)

SPECIES	Dec '57	Jan '58	Feb.	March	April	May	June	July	August	Sept	Oct.	Nov.	TOTAL
GILL - NET													
Salmon: Blueback	...	...	...	...	...	...	294,000	224,800	....	....	...	...	518,800
Chinook	...	...	121,600	...	1,231,000	304,400	716,000	311,200	1,192,400	736,900	82,400	14,500	4,710,400
Chum	...	...	...	...	...	...	...	...	....	....	15,300	39,000	54,300
Silver	...	...	...	...	...	...	...	...	1,100	81,400	39,300	25,600	147,400
Steelhead	...	...	54,600	...	6,500	4,200	107,300	274,200	90,200	37,000	3,400	19,600	597,000
Shad	...	...	...	...	...	61,500	225,500	6,900	....	....	...	...	293,900
Sturgeon: White	...	...	20,100	...	31,500	18,400	25,400	30,600	32,100	8,000	6,700	2,800	175,600
Green	...	...	...	...	...	300	3,800	16,900	29,800	400	300	...	51,500
Flounder	...	...	74,400	...	49,000	15,200	11,800	4,800	13,100	1,900	100	400	170,700
Total Gill-Net	...	...	270,700	...	1,318,000	404,000	1,383,800	869,400	1,358,700	865,600	147,500	101,900	6,719,600
TROLL													
Salmon:													
Chinook, large	...	...	...	...	5,000	5,900	12,000	49,700	65,700	16,100	2,100	...	156,500
Chinook, medium	...	...	...	...	3,000	7,100	20,400	54,900	46,200	8,300	1,400	...	141,300
Chinook, small	...	...	...	...	3,200	6,500	20,000	35,200	30,500	8,800	1,600	...	105,800
Silver	...	...	...	...	...	...	178,500	251,600	110,600	104,300	12,600	...	657,600
Halibut	...	...	....	...	...	...	500	...	....	....	...	...	500
Miscellaneous	...	...	...	....	2,400	600	5,800	15,900	7,400	10,400	200	...	42,700
Total Trol	. .	.	..	...	13,600	20,100	237,200	407,300	260,400	147,900	17,900	...	1,104,400
TRAWL													
Cod	1,000	...	...	17,500	29,000	96,600	65,900	127,700	55,300	13,800	70,500	2,600	479,900
Flounder	...	35,600	11,200	6,100	200	2,800	3,000	43,400	35,700	24,600	14,600	3,600	180,800
Lingcod	...	1,200	1,700	29,200	23,500	29,500	28,700	38,100	25,900	17,900	30,700	2,500	228,900
Perch, Pac. Ocean	...	36,400	8,200	142,900	551,200	545,700	602,200	346,400	79,300	60,100	53,000	4,100	2,429,500
Rockfish	85,800	287,600	226,200	723,700	278,400	261,200	491,600	264,300	117,700	84,400	175,600	172,300	3,168,800
Sablefish	...	1,200	600	2,800	2,400	5,400	32,600	40,600	10,800	7,000	7,500	...	110,900
Sole: Dover	27,200	7,600	16,100	77,700	112,900	235,100	495,500	570,400	192,300	116,400	286,100	63,900	2,201,200
English	900	34,100	78,100	239,600	218,000	145,300	131,100	252,300	200,200	60,600	197,200	11,800	1,569,200
Petrale	13,200	16,200	8,900	52,100	54,800	47,300	52,000	37,400	33,700	26,100	92,700	14,700	449,100
Rex	500	16,500	11,500	86,500	73,000	65,600	61,600	122,800	65,300	25,900	93,900	13,400	636,500
Miscellaneous	1,500	19,800	87,400	269,500	407,300	496,000	911,100	1,336,000	1,031,600	558,800	642,600	111,800	5,873,400
Total Trawl	130,100	456,200	449,900	1,647,600	1,750,700	1,930,500	2,875,300	3 179,400	1,847,800	995,600	1 664,400	400,700	17,328,200
HALIBUT													
Halibut No. 1	...	...	...	...	...	19,100	67,600	8,300	39,900	34,500	58,300	...	227,700
Halibut No. 2	...	...	...	...	...	9,300	30,500	3,800	62,700	42,100	41,700	...	190,100
Unclassified	80,000	184,800	249,500	79,200	11,800	224,000	176,600	231,700	104,000	91,100	83,200	302,000	1,817,900
SMELT													
Dip-Net	..	...	224,000	27,500		.	...	..	.	..		.	251 500
Gill-Net	.	...	35,000	...	. .	.	.				..	.	35,000
SHELLFISH													
Crabs	125,000	724,700	566,000	1,166,600	927,000	403,800	131 300	48,500	30,900	18,300	26,900	25,800	4 194,800
Crabmeat	14,300	45,000	26,600	47,300	24,000	20,000	5,100	.	. .	. ..	.	. .	182 300
Shrimp	...	...	5 200	87,600	112,800	374,500	614,800	58,200	65,700	28,800	61,600	10 300	1,419,500
TUNA (Domestic)													
Albacore	...	...	...	...	...	...	...	382,200	5,517,300	4,403,400	1,518,500	4,000	11,825,400
Yellowfin	...	...	...	...	...	...	...	308,500	....	....	...	....	308,500
Skipjack	...	...	...	...	...	...	...	603,600	....	....	...	...	603,600
MISC.													
Salmon - Puget Snd													
Chinook	...	...	...	...	...	...	...	2,200	7,300	....	...	...	9,500
Silver	...	...	...	...	...	...	...	800	9,300	30,000	...	...	40,100
Sockeye	...	. .	...	...	...	...	...	26,700	937,600	1,467,300	...	...	2,431,600
IMPORTS													
Tuna: Albacore	100,000	1,020,000	750,000	425,000	1,616,000	520,000	2,605,000	1,970,000	3,293,000	1,270,000	115,000	1,264,000	14,948,000
Yellowfin	100,000	700,000	...	20,000	...	...	...	130,000	568,000	2,300,000	495,000	...	4,313,000
Loins	...	...	...	...	...	...	30,000	...	....	....	...	...	30,000
Total Imports	200,000	1,720,000	750,000	445,000	1,616,000	520,000	2,635,000	2,100,000	3,861,000	3,570,000	610,000	1,264,000	19,291,000
GRAND TOTAL	549 400	3,130,700	2,576,900	3,500,800	5,773,900	3,925,300	8,157,200	8 230,600	14,102,600	11,694,600	4 230 000	2,108,700	67 980,700

1958 -Seattle-Weighted Average Prices Paid to Fishermen-1958

SPECIES		Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	Oct	Nov.
		- Cents per Pound -											
Cod, true, ex-vess	Rd.	4.7	4.7	4.5	4.3	4.2	4.4	4.6	4.7	4.3	4.3	4.2	4.9
Flounder, ex-vess	Rd.	4.0	4.5	4.1	4.5	4.5	....	4.5	4.5	4.5	4.5	4.5	4.5
Halibut No. 1, ex-vess	Dr.	....	....	....	....	29.0	23.4	27.1	28.2	28.6	26.8	28.7	31.1
Halibut No. 2, ex-vess	Dr.	....	....	....	....	23.7	20.7	23.2	23.3	24.0	22.9	23.0	....
Lingcod, ex-vess	Dr.	8.0	15.5	10.0	10.0	10.0	5.8	5.0	....	....	5.0	5.0	9.6
Lingcod, ex-vess	Rd.	5.0	5.0	5.0	5.0	5.0	4.5	4.5	4.4	4.5	4.3	4.6	4.9
Pac. Ocean Perch, ex-vess	Rd.	4.5	4.5	....	4.5	4.5	4.5	5.0	5.0	4.5	4.5	4.5	4.5
Rockfish, ex-vess	Dr.	....	12.0	....	....	....	5.0	4.5	5.0	5.0	5.0	4.9	4.4
Rockfish, ex-vess	Rd.	4.5	3.9	4.5	4.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Sablefish, ex-vess	Dr.	....	....	....	....	....	12.5	13.5	13.9	14.7	15.7	16.6	16.8
Sablefish, ex-vess	Rd.	....	....	....	....	....	8.0	....	....	....	....	....	8.1
SALMON:													
Chinook, large, ex-vess	Dn.	....	....	....	....	55.2	58.5	66.3	76.8	81.2	80.0	76.0	...
Chinook, small, ex-vess	Dn.	....	....	....	....	51.5	41.1	36.8	42.3	44.7	42.8	43.4	....
Chinook, white, ex-vess	Dn.	....	....	....	....	51.5	38.1	41.7	44.1	44.7	43.7	43.4	....
Chinook, ex-vess	Rd.	....	....	....	....	....	....	....	....	....	31.0	18.0	18.0
Chum, ex-vess	Rd.	....	....	....	....	....	....	....	....	....	19.0	19.0	15.5
Pink, ex-vess	Rd.	....	....	....	....	....	....	....	....	29.0	....	....	....
Silver, ex-vess	Dn.	....	....	....	....	....	....	34.7	38.1	45.4	40.9	45.6	....
Silver, ex-vess	Rd.	....	....	....	....	....	....	....	....	16.0	31.0	30.0	28.0
Sockeye, ex-vess	Rd.	....	....	....	....	....	....	....	....	28.0	....	28.0	...
Sole, English, ex-vess	Rd.	8.0	6.9	8.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
Sole, Petrale, ex-vess	Rd.	10.0	....	....	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
Sole, Other, ex-vess	Rd.	5.5	5.8	7.1	5.7	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Tuna, Albacore, ex-vess	Rd.	....	....	....	....	....	....	....	....	....	21.3	21.3	....

steady increase in the *catch* on the Nushagak since 1955, indicating a tendency toward greater utilization.

Before the end of the 1958 season there was evidence that mild curing facilities would be provided on the Nushagak by the time the King season of 1959 opens.

- Development of a troll salmon fishery for both Kings and Silvers in the vicinity of Middleton Island, off the entrance to Prince William Sound, was one of the significant expansions of the field for mild curing during 1959, and actually made a moderate contribution to the pack of mild cure.

This fishery was pioneered by a group of boats which had been fishing in Southeast Alaska, but which were impelled to search further by the scarcity of salmon there, the high degree of competition, and the excellent prices available.

They found fish in the vicinity of Middleton and LaTouche Islands, and at the peak about 30 trollers were working the area. The Halibut Producers Cooperative arranged for handling the fish at La Touche and Seward and eventually sent a curer up to split the deliveries.

Success of the initial season undoubtedly will result in increased activity in 1959.

- Fishermen's Cooperative Association in 1959 extended its coastal buying, handling, auction and shipping facilities with the construction of a modern receiving station at Coos Bay, Ore.

This supplements the FCA grounds installations at Neah Bay and Westport, Wash., and operates in connection with its Seattle headquarters.

- Pacific Northwest troll fishing was curtailed materially by the late opening of the trolling season off the Washington coast, according to the vigorous contention of large numbers of fishermen who customarily work out of Westport during the early spring. They contend that the present opening of the season comes too late for them to meet the spring run moving up the Washington coast, and point to the decided decline in deliveries in that area to support their position.

An interesting development in the field of cured salmon utilization is the expansion and improvement in the Los Angeles Smoking & Curing plant in Los Angeles, one of the United States' largest producers of smoked salmon.

Although this institution utilizes primarily fresh and frozen salmon for its products, it actually does its own curing preparatory to smoking the fish. Salmon for the LASSCO featured cure is smoked in an electrostatic smoker. The sides of salmon are then sliced on special machines before the fish is packed in the several special packages which employ variously flexible films, glass and tin containers.

OREGON TROLL SALMON LANDINGS

Year	Columbia River		Coastal Ports		State Total		Oregon Total Both	Year
	(Pounds)							
	Chinook	Silver	Chinook	Silver	Chinook	Silver		
1942	323,769	100,843	320,766	926,936	644,535	1,027,779	1,672,314	1942
1943	157,814	125,618	247,349	534,813	405,163	660,431	1,065,594	1943
1944	457,721	286,637	815,254	1,184,605	1,272,975	1,471,242	2,744,217	1944
1945	1,012,524	232,774	979,105	950,614	1,991,629	1,183,388	3,174,017	1945
1946	1,063,943	478,199	1,522,452	935,182	2,586,395	1,413,381	3,999,776	1946
1947	626,276	598,735	1,948,432	1,278,140	2,574,708	1,876,875	4,451,583	1947
1948	532,788	409,015	984,613	932,557	1,517,401	1,341,572	2,858,973	1948
1949	223,938	163,380	1,136,868	1,126,669	1,360,806	1,290,049	2,650,855	1949
1950	291,386	365,540	731,395	883,407	1,022,781	1,248,947	2,271,728	1950
1951	464,973	589,697	2,135,752	1,688,096	2,600,725	2,277,793	4,878,518	1951
1952	821,402	532,224	2,262,898	2,242,232	3,084,300	2,774,456	5,858,758	1952
1953	518,228	368,730	1,404,483	1,937,542	1,922,711	2,306,272	4,228,983	1953
1954	520,396	242,607	3,277,655	999,696	3,798,051	1,242,303	5,040,854	1954
1955	522,821	344,542	3,058,350	1,854,341	3,581,171	2,198,883	5,780,054	1955
1956	476,056	477,069	4,089,687	2,894,208	4,565,743	3,371,277	7,937,020	1956
1957*	178,094	371,307	2,838,350	3,482,115	3,016,444	3,853,422	6,869,866	195
1958**	92,676	195,763	1,671,120	1,074,142	1,763,796	1,269,905	3,033,701	195

*Total for first 9 months only. †Columbia River also received 21,556 Pink Salmon.

SALMON ESCAPEMENT OVER BONNEVILLE DAM

(In numbers of fish as recorded by U.S. Engineers)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
							CHINOOK						
1940	...	...	504	37,253	28,621	7,028	14,938	58,643	240,515	3,765	287	34	391,588
1941	4	...	1,360	51,501	19,445	7,013	9,395	12,590	351,967	7,179	866	138	461,458
1942	1	15	34	9,506	30,915	11,816	12,821	27,581	305,935	4,485	639	190	403,938
1943	11	6	43	12,172	53,268	5,440	8,044	28,985	201,414	3,354	365	21	313,123
1944	1	2	65	15,670	15,127	4,363	8,241	55,468	139,254	2,388	164	20	240,763
1945	6	4	81	17,148	26,276	11,293	16,327	32,254	189,675	4,281	137	6	297,488
1946	1	2	25	14,179	53,313	30,051	20,960	45,421	277,075	4,521	170	25	445,743
1947	...	2	141	83,520	49,899	25,502	13,358	43,062	260,385	3,945	526	36	480,376
1948	10	...	251	21,205	20,262	44,137	23,100	35,934	270,238	3,928	467	23	419,555
1949	...	...	5	5,765	44,304	24,232	22,500	41,500	137,599	1,571	215	6	277,697
1950	...	...	21	6,630	50,638	16,667	32,937	40,462	205,521	4,356	143	...	357,375
1951	...	...	32	28,801	86,055	54,889	24,394	33,785	97,131	6,489	212	...	331,788
1952	**	**	255	8,130	107,807	62,491	21,800	82,290	135,053	2,576	477	**	420,879
1953	**	**	1,254	126,450	42,583	27,228	30,593	27,398	75,145	1,495	333	**	332,479
1954	**	**	657	82,877	51,230	46,801	32,596	24,969	80,426	1,189	200	**	320,945
1955	**	**	1,391	84,436	85,769	45,502	37,437	32,833	70,558	1,803	124	...	359,853
1956	**	**	161	8,850	54,438	64,262	36,938	42,203	92,030	1,854	179	...	300,915
1957	**	**	328	90,330	46,365	104,243	30,790	34,829	95,457	1,352	175	**	403,869
1958	**	**	469	15,361	59,377	74,375	27,524	19,735	227,504	1,948	127	**	426,420
							STEELHEAD						
1940	5	96	1,688	4,125	998	4,489	61,175	46,071	64,377	1,786	292	59	185,161
1941	37	76	1,641	6,392	1,518	994	21,940	29,600	50,542	3,980	1,063	304	118,087
1942	4	37	256	3,642	4,159	1,588	19,905	41,973	76,622	2,411	566	182	151,345
1943	14	18	654	3,374	4,698	1,564	7,755	29,894	41,051	2,444	573	92	92,131
1944	50	157	1,019	6,142	2,227	1,169	21,868	24,508	35,907	6,129	1,119	226	100,521
1945	1,003	1,078	3,066	4,685	1,557	1,109	24,600	40,483	40,194	1,925	302	142	120,144
1946	63	551	3,040	9,839	5,481	3,265	20,559	58,356	38,296	2,067	262	769	142,548
1947	197	321	1,968	6,889	2,025	1,595	28,134	40,819	50,025	2,905	443	113	135,434
1948	154	119	1,631	4,473	1,170	1,895	33,191	53,621	40,609	1,742	381	76	139,062
1949	7	...	1,689	3,293	1,712	1,264	34,314	54,281	20,786	1,161	686	98	119,285
1950	13	...	1,156	4,537	1,667	691	25,142	53,904	24,226	1,932	811	...	114,079
1951	...	...	375	2,338	1,568	5,187	74,980	39,712	15,357	947	225	...	140,689
1952	**	**	278	1,248	1,751	8,202	118,110	79,735	48,293	2,735	638	**	...
1953	**	**	1,310	5,308	1,456	5,314	106,712	64,006	36,107	2,797	905	**	223,915
1954	**	**	679	5,511	1,571	6,115	59,443	65,234	34,941	2,209	551	**	176,254
1955	**	**	1,006	2,100	1,149	2,418	79,124	84,746	24,239	3,367	268	...	198,417
1956	**	**	1,409	2,718	1,582	3,122	48,306	47,148	23,343	2,846	635	...	131,109
1957	**	**	926	2,081	771	8,434	66,738	34,915	24,029	1,069	231	**	139,194
1958	**	**	495	651	1,457	5,645	53,734	22,827	44,478	1,859	290	**	131,436
							SILVERS						
1940	3	...	...	...	...	...	...	1,451	10,212	213	33	5	11,917
1941	2	...	...	...	...	...	...	1,317	16,061	369	160	2	17,911
1942	...	...	...	...	...	...	...	1,193	11,061	147	...	...	12,401
1943	...	...	...	...	...	...	...	762	1,676	89	20	...	2,547
1944	...	...	...	...	...	...	...	1,052	3,022	103	29	2	4,208
1945	...	...	...	...	...	...	2	239	533	16	...	1	791
1946	...	10	4	...	...	...	22	227	3,609	1	...	24	3,897
1947	12	2	1	...	...	...	...	217	10,928	10	3	1	11,174
1948	1	...	...	...	...	...	11	158	3,893	10	3	5	5,081
1949	...	...	...	...	...	...	17	270	703	5	8	1	1,004
1950	...	...	...	...	...	...	...	1,572	8,545	36	...	...	10,153
1951	...	...	...	...	...	...	...	197	4,773	225	6	...	5,201
1952	**	**	...	...	...	...	10	2,581	5,131	22	24	**	7,768
1953	**	**	...	...	...	...	1	7,094	5,896	22	11	**	13,018
1954	**	**	...	...	...	...	...	668	3,319	74	1	**	4,062
1955	**	**	...	...	...	...	...	443	3,188	94	...	...	3,725
1956	**	**	...	...	...	...	...	1,158	4,879	83	...	...	6,120
1957	**	**	...	...	...	...	...	1,564	3,049	101	530	**	4,775
1958	**	**	...	...	...	...	...	341	3,220	99	13	**	3,673
							BLUEBACK						
1940	...	...	...	...	206	59,639	85,885	3,063	11	1	...	...	148,805
1941	...	...	...	299	1,052	23,536	39,193	1,615	50	...	...	...	65,745
1942	...	...	...	...	13	12,624	41,301	1,477	60	...	...	...	55,475
1943	...	...	...	...	9	4,525	33,613	1,697	1	...	...	...	39,845
1944	...	...	1	...	16	3,098	11,171	659	126	...	...	...	15,071
1945	...	...	10	51	521	1,507	6,903	498	10	1	...	...	9,501
1946	...	...	...	9	67	7,805	64,704	1,746	21	2	...	...	74,354
1947	...	...	...	...	5	59,378	108,175	3,564	15	1	...	1	171,139
1948	...	...	...	...	...	12,023	117,652	1,849	13	4	...	...	131,541
1949	...	...	...	...	151	9,013	41,619	655	6	...	...	...	51,444
1950	...	...	...	...	...	341	75,784	1,826	42	...	...	...	77,993
1951	...	...	...	...	25	81,045	87,104	1,214	40	...	...	...	169,428
1952	**	**	7	1	3	136,939	47,188	472	34	2	8	**	184,654
1953	**	**	57	27	663	45,711	186,933	1,776	50	2	...	**	235,219
1954	**	**	1	...	13	52,359	76,505	1,212	17	...	...	**	130,107
1955	**	**	...	...	79	21,923	214,860	866	11	9	...	...	237,748
1956	**	**	...	...	10	29,649	125,185	1,564	7	3	...	...	156,418
1957	**	**	...	...	21	38,616	43,938	323	14	3	...	**	82,915
1958	**	**	...	...	25	38,736	82,719	878	23	8	...	**	122,389

NOTE:- Escapement of Chums in any quantity occurs only in last 3 months of year; therefore Chums are listed only in historical table, showing yearly totals.
* Data not available. Figures for 1938 are from May 7 to Dec. 31, inclusive. ** Counting suspended during winter months.

PACIFIC MILD CURED SALMON PACK

(IN TIERCES OF 825 LBS. NET WEIGHT)

YEAR	Alaska	British Columbia	Puget Sound	Columbia River	Oregon Coast	California Coast	Sacramento River	Kamchatka	Recapitulation		ANNUAL TOTALS	YEAR
									Kings	Silvers		
1900	. . .	. . .	. . .	1,275	. . .	. . .	950	. . .		. . .	2,225	1900
1901	67	. . .	600	3,000	. . .	. . .	3,100	. . .		. . .	6,767	1901
1902	67	. . .	425	4,213	188	504	2,325	. . .		. . .	7,722	1902
1903	8	. . .	824	6,725	. . .	354	3,600	. . .		. . .	11,511	1903
1904	34	. . .	1,250	9,088	. . .	448	4,719	. . .		. . .	15,539	1904
1905	189	1,175	3,000	9,805	415	310	2,979	. . .		. . .	17,873	1905
1906	1,126	957	. . .	8,000	740	685	2,177	. . .		. . .	13,685	1906
1907	1,657	1,993	2,060	6,070	860	722	4,102	. . .		. . .	17,464	1907
1908	1,378	1,060	. . .	4,960	. . .	252	3,243	. . .		. . .	10,893	1908
1909	2,292	1,560	2,109	5,540	664	991	5,111	. . .		. . .	18,267	1909
1910	3,357	1,638	2,435	7,922	1,465	75	5,516	. . .		. . .	22,408	1910
1911	3,164	2,006	2,745	8,185	1,377	770	2,011	. . .		. . .	19,758	1911
1912	5,245	1,380	3,013	5,824	3,479	100	3,274	. . .		. . .	22,315	1912
1913	7,440	2,125	3,631	5,746	2,681	550	4,789	. . .		. . .	26,952	1913
1914	3,872	3,182	1,934	5,205	457	1,476	1,829	. . .		. . .	17,955	1914
1915	2,966	1,119	2,235	4,078	333	945	1,630	. . .		. . .	13,306	1915
1916	4,475	767	1,755	4,656	194	1,069	650	. . .		. . .	13,566	1916
1917	2,955	429	1,063	1,886	. . .	300	1,508	. . .		. . .	8,181	1917
1918	4,234	729	1,093	1,804	275	721	1,913	. . .		. . .	9,869	1918
1919	6,803	1,173	2,423	3,328	148	2,381	2,355	. . .		. . .	18,611	1919
1920	2,770	1,116	2,036	2,275	102	1,793	1,345	. . .		. . .	11,437	1920
1921	3,966	1,076	4,517	3,051	160	1,251	812	. . .		. . .	14,833	1921
1922	5,158	2,253	4,727	1,621	162	550	1,195	. . .		. . .	15,666	1922
1923	4,075	1,819	5,799	1,769	176	1,229	606	. . .	15,129	344	15,473	1923
1924	6,069	2,969	6,409	2,320	286	2,624	1,291	. . .	21,476	492	21,968	1924
1925	7,119	3,098	5,600	2,746	547	2,241	1,523	500	22,530	844	23,374	1925
1926	5,781	2,183	4,087	1,055	1,205	929	1,767	650	16,585	1,072	17,657	1926
1927	8,982	2,689	5,160	951	918	927	1,125	854	19,390	2,216	21,606	1927
1928	5,784	2,676	4,304	1,305	2,163	1,686	179	783	14,051	4,046	18,880	1928
1929	5,477	3,016	4,311	1,969	1,787	1,160	155	1,083	15,749	3,209	18,958	1929
1930	5,331	2,630	4,361	1,068	102	1,184	124	2,144	16,049	895	16,944	1930
1931	4,123	1,083	5,700	1,251	372	1,027	164	712	13,862	570	14,432	1931
1932	5,560	1,542	3,650	2,012	1,119	752	294	640	13,443	2,126	15,569	1932
1933	4,852	3,097	3,527	2,431	660	1,392	37	340	15,295	1,041	16,336	1933
1934	4,908	4,657	3,882	1,855	270	1,572	5	776	16,960	965	17,925	1934
1935	5,487	2,665	3,563	1,730	210	2,090	439	670	15,450	1,404	16,854	1935
1936	5,222	1,642	4,897	1,138	68	1,939	366	840	15,611	495	16,106	1936
1937	6,373	4,055	2,775	604	. . .	1,026	49	778	15,552	108	15,660	1937
1938	7,786	3,128	3,657	1,292	387	627	945	787	16,451	2,158	18,609	1938
1939	7,724	2,802	2,937	501	20	417	119	600	14,905	224	15,129	1939
1940	5,210	693	3,531	33	. . .	711	308	11	10,283	714	10,497	1940
1941	8,862	1,474	3,561	229	. . .	360	15	. . .	14,174	302	14,501	1941
1942	6,748	1,055	2,494	20	. . .	. . .	. . .	. . .	10,241	76	10,317	1942
1943	3,869	811	1,022	21	. . .	166	. . .	. . .	5,278	611	5,889	1943
1944	3,518	2,019	959	16	. . .	1,259	1,329	. . .	7,969	*1,050	9,100	1944
1945	7,763	1,209	1,790	159	. . .	*1,065	1,570	. . .	10,843	*3,200	13,556	1945
1946	6,824	1,975	2,170	96	. . .	. . .	§2,764	. . .	13,216	613	13,829	1946
1947	5,919	1,675	2,129	99	. . .	§	919	. . .	10,631	110	10,741	1947
1948	5,076	1,025	2,282	77	. . .	. . .	. . .	. . .	8,490	36	8,456	1948
1949	4,449	1,177	2,049	86	. . .	891	. . .	. . .	8,625	27	8,652	1949
1950	4,809	889	3,264	90	. . .	1,214	. . .	. . .	10,109	157	10,266	1950
1951	4,671	897	2,436	20	. . .	1,200	. . .	. . .	9,150	74	9,224	1951
1952	3,489	752	2,318	4	. . .	493	. . .	. . .	7,052	. . .	7,052	1952
1953	4,484	742	2,688	30	. . .	1,033	. . .	. . .	9,209	75	8,977	1953
1954	4,003	645	2,155	. . .	. . .	1,010	. . .	. . .	7,500	313	7,813	1954
1955	3,375	678	2,796	189	. . .	4,200	. . .	. . .	11,238	**	11,238	1955
1956	2,002	688	2,267	131	. . .	2,075	. . .	. . .	7,416	***	7,163	1956
1957	2,385	533	2,374	97	. . .	456	. . .	Falls	5,845	***	5,845	1957
1958	3,749	760	3,240	209	. . .	845	. . .	169	6,866	1,768	8,803	1958

NOTE:- Mild cured Falls not included. *Estimated segregation. In 1945 the Silver category includes 200 tierces of Sockeyes. **Species segregation not available. ***Approximately 100 tierces of Silvers included with Kings. §Segregation as to district not available.

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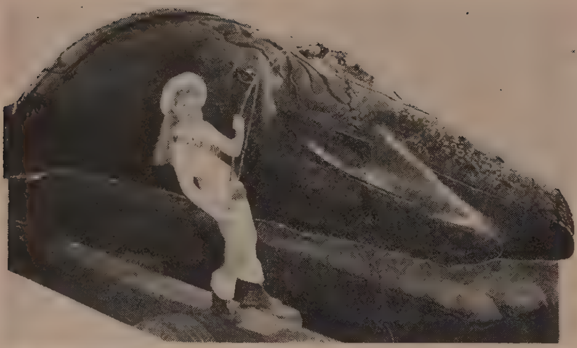

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Strong Swing Shows In Pacific Fish Freezing

1958

● Marked trends were evident in the 1958 development of Pacific fish freezing. Among them, these:

Concentration on the great staples, halibut and salmon.

Trend toward intermediate products which leave the final processing to the freezer's customer—as in the case of halibut flitches, and cod slabs and blocks.

Emphasis on frozen shellfish, particularly crabs and crabmeat, where technological developments have overcome handicaps which perplexed operators for decades.

● Pacific fish freezing in 1958 pulled up from the dip which developed in 1957, but failed by a wide margin of attaining the all-time top touched in 1956; a top which proved heavy.

Halibut freezing, biggest business in Pacific fish refrigeration, rose above 47 million pounds in spite of the long producing season.

As a matter of fact, actual halibut freezing unquestionably exceeded this figure by a substantial margin, as some millions of pounds of halibut were packed as frozen flitches, which are carried in *Pacific Fisherman Yearbook's* statistical tables as fillets rather than halibut.

As might be expected, Alaska was again the leading center of halibut freezing, reflecting in part the growing importance of the Area 36 fishery, with its dependence upon the op-

1958 Pacific Frozen Shellfish

COMPANY	LOCATION	Dungeness Crabmeat lbs.	King Crabmeat lbs.	Crab in Shell lbs.	Shrimp meat lbs.	Clams Shucked lbs.	Oysters Shucked lbs.	TOTAL lbs.
Alaskan Glacier Sea Food Co.	Petersburg, Alaska	45,000	---	---	215,000	---	---	260,000
Alaskan Seafood	Homer, Alaska	---	10,727	6,418	---	---	---	17,145
Booth Fisheries Co.	Seattle	27,250	---	---	4,500	5,700	76,500	113,950
British Columbia Packers, Ltd.	All Stations	3,761	---	6,934	35,032	---	82,125	127,852
Canadian Fishing Company	All Stations	3,448	---	---	9,056	---	---	12,504
Coast Oyster Company	South Bend & Eureka	---	---	---	---	---	1,131,613	1,131,613
Coastal Glacier Seafood Co.	Hoonah, Alaska	79,032	---	7,108	---	---	---	86,140
Columbia River Packers Assn.	Astoria, Ore.	97,200	---	---	---	---	---	97,200
Fishermen's Cooperative Feder'n	Vancouver & Prince Rupert	---	---	---	7,020	---	---	7,020
Haines Oyster Company	Seattle	---	---	---	---	---	145,000	145,000
Harbor Sea Foods Company	Bay Center, Wash.	50,000	---	138,000	---	---	---	188,000
Harbor Sea Foods Company	Wrangell, Alaska	---	---	---	*50,988	---	---	50,988
Island Cove Packing Co.	Cut-Off, Alaska	15,000	---	---	---	---	---	15,000
Kaakinen Fish Company	Westport, Wash.	500	---	---	4,560	---	---	5,060
Kayler-Dahl Fish Company	Petersburg, Alaska	---	---	---	100,522	---	---	100,522
Lazio Fish Co., Tom	Eureka, Calif.	325,000	---	614,265	62,000	---	---	1,001,265
Narrows Packing Company	Halibut Cove, Alaska	---	400	3,000	2,500	---	---	5,900
New England Fish Co.	Oregon Plants	80,000	---	300,000	--	---	---	380,000
Petersburg Cold Storage Co.	Petersburg, Alaska	4,008	---	---	7,196	---	---	11,204
Pacific Pearl Frozen Foods	Aberdeen, Wash.	12,072	---	32,389	--	---	---	44,461
Queen Charlotte Canners, Ltd.	Massett, B.C.	39,037	---	174,522	--	---	---	213,559
Seaside Clam Company	Warrenton, Ore.	40,000	---	200,000	10,000	---	---	250,000
Seattle Seafoods Company	Seattle	40,000	---	30,000	--	---	---	70,000
Seaport Fish Company	Seattle	1,000	---	1,000	--	---	2,500	4,500
Wakefields Deep Sea Trawlers	Sand Point & "Deep Sea"	---	1,038,000	769,000	--	---	---	1,807,000
Washington Fish & Oyster Co.	Seattle	3,040	---	---	9,552	810	8,254	21,656
Whitney & Company	Seldovia, Alaska	---	140,000	---	--	---	---	140,000
Whiz Fish Products Company	Ketchikan, Alaska	100,000	---	50,000	--	---	---	150,000
	Seattle	100,000	---	100,000	--	---	---	200,000
TOTAL		1,065,348	1,189,127	2,432,636	517,926	6,510	1,445,992	6,657,539

* Also froze 15,283 lbs. Sidestripe Shrimp in shell.

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Alaska Custom Cold Storage Freezings - 1958

(Pounds)

Company	Location	Halibut	Salmon	Sablefish	Fillets	Misc.	GRAND TOTAL
Alaska Fish & Farm Products	Anchorage	23,280	28,610	---	--	---	51,890
Aleutian Cold Storage Company	Sand Point	2,900,000	---	---	--	---	2,900,000
Juneau Cold Storage Company	Juneau	2,271,971	1,218,480	337,142	--	4,863	3,832,456
Ketchikan Cold Storage Company	Ketchikan	2,950,000	905,000	250,000	--	---	4,105,000
Pelican Cold Storage Company	Pelican	2,520,508	2,490,739	59,172	--	---	5,070,419
Petersburg Cold Storage Company	Petersburg	2,548,419	537,897	312,477	--	8,294	3,407,[illegible]
Sitka Cold Storage Company	Sitka	1,141,463	338,788	20,804	--	---	1,501,055
Wrangell Cold Storage Company	Wrangell	521,209	409,844	---	--	---	931,053
TOTAL		14,876,850	5,929,358	979,595	--	13,157	21,798,960

eration at Sand Point for supply and an opportunity to deliver without the long run back to port.

- Salmon freezing at 27 million pounds was only moderate from the standpoint of volume, and reflects the scarcity of Silvers which concerned the trade through the autumn.

Falls also were late in developing their volume, which never attained a level which entirely satisfied demand.

- Trend toward flitching halibut has been mentioned, and deservedly, for it appears to be a movement of promise in the business. Columbia River and Oregon coast points, with 873,000 pounds of flitches frozen, refrigerated far more halibut in this form than as whole fish. On Puget Sound the flitch production was also heavy, and in British Columbia.

In general the flitches and chunks of halibut are being packed in tight bags of shrinking plastic film which protect them perfectly from dehydration in storage, and from which all air can be evacuated before sealing and freezing.

Pacific Frozen Food Fish · 1958

COMPANY	Plant Location	Halibut	Salmon	Sablefish	Fillets	Misc.	TOTAL
		(Pounds)					
ALASKA							
Alaska Fish & Farm Products	Anchorage	23,280	28,610	---	--	---	51,890
Booth Fisheries Corporation	Alaska Points	1,806,500	403,500	---	3,600	---	2,213,600
Halibut Producers Cooperative	Alaska Points	803,324	1,121,000	310,471	--	---	2,234,795
Kayler-Dahl Fish Company	Petersburg	891,222	290,930	101,708	--	---	1,283,860
New England Fish Company	Alaska Points	3,500,000	500,000	15,000	--	---	4,015,000
Oxenberg Bros.	Ketchikan	9,969	101,988	---	--	---	111,957
Phillips, E.C.	Ketchikan	1,600,000	325,000	52,000	--	150,000	2,127,000
San Juan Fishing & Packing Co.	Alaska Points	1,736,345	45,480	---	--	---	1,781,825
Washington Fish & Oyster Co.	Port Williams	1,438,067	15,522	---	--	---	1,453,589
Whitney & Company	Seldovia	700,000	15,000	---	--	---	715,000
Whiz Fish Products Co.	Ketchikan	100,000	150,000	---	--	---	250,000
Miscellaneous		5,651,000	2,882,000	862,000	--	---	9,395,000
Total ALASKA		18,259,707	5,879,030	1,341,179	3,600	150,000	25,633,516
BRITISH COLUMBIA							
Booth Fisheries Corporation	All Points	400,000	430,000	1,000	25,000	---	856,000
British Columbia Packers, Ltd.	All Points	4,606,549	5,397,432	43,556	3,881,948	635,175	14,564,660
Canadian Fishing Company	All Points	4,528,627	5,417,596	37,891	571,731	708,896	11,264,741
Fishermen's Cooperative Federation	Prince Rupert & Vancouver	4,497,724	3,222,672	131,151	453,423	98,373	8,403,343
San Juan Fishing & Packing Co.	B.C. Points	1,674,309	1,130,486	---	--	---	2,804,795
Total BRITISH COLUMBIA		15,707,209	15,598,186	213,598	4,932,102	1,442,444	37,893,539
PUGET SOUND							
Booth Fisheries Corporation	Seattle	1,800,000	640,000	207,000	402,000	533,000	3,582,000
Eardley Fisheries Company	Seattle	1,050,000	270,000	200,000	920,000	15,000	2,455,000
Everett Fish Company	Seattle	52,000	92,000	121,000	--	---	265,000
McCallum-Legaz Fish Co.	Seattle	500,000	280,000	150,000	77,000	20,000	1,027,000
New England Fish Company	Seattle	600,000	200,000	---	--	---	800,000
San Juan Fishing & Packing Co.	Seattle	2,938,223	1,033,006	285,295	--	52,000	4,308,524
Seaport Fish Company	Seattle	538,000	747,000	80,000	62,000	20,000	1,447,000
Seattle Sea Foods Company	Seattle	1,400,000	75,000	---	--	---	1,475,000
Washington Fish & Oyster Co.	Seattle	1,604,935	979,080	94,150	16,597	177,496	2,872,258
Miscellaneous		2,515,842	514,000	---	865,000	219,000	4,113,842
Total PUGET SOUND		12,999,000	4,830,086	1,137,445	2,342,597	1,036,496	22,345,624
OREGON							
Columbia River Packers Assn.	Astoria	--	--	---	--	---	--
Feller, Chas.	Coos Bay	--	7,000	---	--	18,000	25,000
New England Fish Company	Oregon Points	250,000	80,000	50,000	500,000	---	880,000
Union Fishermen's Co-op. Pkg. Co.	Astoria	--	214,115	---	--	13,985	228,100
Miscellaneous		277,000	257,000	20,000	1,932,000	694,000	3,180,000
Total OREGON		527,000	558,115	70,000	2,432,000	725,985	4,313,100
CALIFORNIA							
Lazio Fish Co., Tom	Eureka	--	31,382	65,367	471,767	---	568,516
Miscellaneous	California Points	238,000	170,000	83,000	523,000	4,070,000	5,084,000
Total CALIFORNIA		238,000	201,382	148,367	994,767	4,070,000	5,652,516
TOTAL PACIFIC COAST		47,730,916	27,066,799	2,910,589	10,705,066	7,424,925	95,838,295

HALIBUT FREEZING IN CANADA BY MONTHS

(Pounds)

Year	Jan.	Feb.	March	April	May	June	July	August	September	October	November	December	TOTAL
1943	282,093	296,651	379,829	573,065	2,311,086	2,630,088	654,403	683,421	1,149,085	175,542	100,641	86,663	9,322,567
1944	282,698	273,600	348,847	86,289	314,432	5,465,098	3,232,596	802,380	499,926	436,090	171,886	195,405	12,109,247
1945	394,811	222,238	240,413	220,018	3,489,342	3,408,682	3,408,682	645,187	924,675	924,671	623,475	362,478	14,864,672
1946	183,346	344,076	571,122	10,869	4,558,350	3,798,912	849,659	1,403,497	335,440	174,361	304,517	166,185	12,700,334
1947	332,759	217,645	358,022	167,994	6,059,714	4,782,689	2,186,016	2,575,403	287,595	206,741	52,711	18,000	17,245,289
1948	132,000	68,000	186,000	21,000	7,623,000	4,530,000	1,541,000	210,000	276,000	56,000	182,000	*	14,825,000
1949	30,000	7,000	21,000	49,000	7,821,000	4,990,000	1,878,000	402,000	85,000	340,000	43,000	9,000	15,675,000
1950	10,000	41,000	41,000	260,000	8,953,000	4,991,000	2,039,000	392,000	90,000	321,000	237,000	**	17,375,000
1951	16,000	42,000	32,000	87,000	11,499,000	3,071,000	560,000	1,109,000	164,000	44,000	7,000	21,000	16,652,000
1953	79,000	136,000	119,000	165,000	5,662,000	9,498,000	2,487,000	2,175,000	222,000	77,000	15,000	3,000	20,638,000
1954	49,000	112,000	181,000	110,000	6,367,000	9,266,000	2,696,000	2,951,000	262,000	130,000	91,000	16,000	22,231,000
1955	102,000	128,000	186,000	42,000	5,077,000	4,621,000	7,641,000	2,312,000	1,747,000	121,000	68,000	72,000	22,117,000
1956	132,000	203,000	107,000	141,000	2,209,000	5,456,000	2,661,000	2,341,000	2,298,000	206,000	28,000	29,000	15,811,000
1957	69,000	110,000	106,000	272,000	5,965,000	5,091,000	2,299,000	2,488,000	1,043,000	502,000	85,000	50,000	18,080,000
1958	92,000	60,000	88,000	80,000	4,832,000	6,510,000	2,638,000	2,613,000	1,097,000	170,000	*	*	18,180,000

NOTE: 1952 data not available.
All figures in accordance with latest reports.

* Data not available.

** Less than three firms reported, therefore the data may not be shown.
Source: Dominion Bureau of Statistics - Ottawa, Canada.

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Oregon Fish Freezing by Months

(Pounds)

ITEM	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	TOTAL
FROZEN FISH													
Bait & Animal Food	77,000	...	6,000	32,000	2,000	14,000	35,000	34,000	27,000	7,000	2,000	2,000	238,000
Fillets & Steaks:													
Blocks & Slabs	5,000	8,000	15,000	6,000	22,000	...	11,000	23,000	13,000	19,000	...	90,000	212,000
Cod	...	...	...	13,000	14,000	19,000	12,000	17,000	4,000	1,000	1,000	2,000	83,000
Halibut	...	...	...	...	37,000	87,000	161,000	138,000	102,000	125,000	130,000	93,000	873,000
Lingcod	...	...	...	...	1,000	...	...	...	...	...	...	...	1,000
Ocean Perch, Pacific	...	1,000	3,000	15,000	36,000	57,000	88,000	58,000	24,000	17,000	17,000	27,000	343,000
Rockfish	...	1,000	6,000	32,000	...	20,000	16,000	17,000	7,000	5,000	3,000	1,000	108,000
Salmon	...	...	51,000	...	...	4,000	...	26,000	61,000	25,000	25,000	33,000	225,000
Sole	...	...	2,000	5,000	25,000	57,000	46,000	155,000	149,000	66,000	66,000	16,000	587,000
Fish Sticks (Cooked & Uncooked)	...	5,000	4,000	5,000	...	2,000	5,000	5,000	4,000	12,000	6,000	25,000	73,000
Round, Dressed, etc.:													
Halibut	...	...	...	...	...	131,000	177,000	58,000	83,000	39,000	39,000	...	527,000
Sablefish	...	...	...	...	1,000	2,000	17,000	32,000	8,000	5,000	5,000	...	70,000
Salmon: King	...	...	...	...	12,000	7,000	44,000	76,000	133,000	32,000	27,000	5,000	336,000
Silver	...	...	...	...	...	...	23,000	28,000	5,000	17,000	18,000	4,000	95,000
Chum	...	...	...	...	...	...	...	...	...	...	2,000	29,000	31,000
Unclassified	...	...	1,000	...	...	2,000	17,000	49,000	16,000	3,000	3,000	5,000	96,000
Total Salmon	...	...	1,000	...	12,000	9,000	84,000	153,000	154,000	52,000	50,000	43,000	558,000
Smelt	...	...	66,000	18,000	...	...	...	...	...	...	...	...	84,000
Other Fish	...	...	3,000	...	2,000	39,000	113,000	31,000	332,000	104,000	16,000	2,000	642,000
TOTAL Frozen Fish	82,000	15,000	157,000	126,000	152,000	441,000	765,000	747,000	968,000	477,000	360,000	334,000	4,624,000
FROZEN SHELLFISH													
Crabs & Crabmeats	50,000	101,000	32,000	32,000	59,000	38,000	4,000	2,000	2,000	...	...	1,000	321,000
Other	11,000	7,000	...	...	...	12,000	6,000	...	...	...	...	...	36,000
TOTAL Shellfish	61,000	108,000	32,000	32,000	59,000	50,000	10,000	2,000	2,000	...	...	1,000	357,000
TOTAL FROZEN FISH & SHELLFISH	143,000	123,000	189,000	158,000	211,000	491,000	775,000	749,000	970,000	477,000	360,000	335,000	4,981,000

● Tendency of Pacific fish freezers to produce blocks and slabs rather than fish sticks is plainly evident in 1958's freezing record. Practice is becoming established in which the blocks and slabs are prepared with the stickers and breaders, who utilize them when and as they are needed. Thus the problems of packing, storage, inventory and depreciation in storage are avoided by the primary producer.

Shellfish Freezing Exhibits Strong Growth Tendency

● Shellfish freezing again in 1958 displayed vigor and expansion, particularly in the case of crabmeat, both

Washington Fish Freezing by Months

(Pounds)

ITEM	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	TOTAL
FROZEN FISH													
Bait & Animal Food	31,000	5,000	78,000	290,000	398,000	379,000	175,000	57,000	139,000	176,000	467,000	225,000	2,420,000
Fillets & Steaks:													
Blocks & Slabs	...	...	...	1,000	...	...	...	...	...	...	...	2,000	3,000
Cod	3,000	3,000	...	188,000	159,000	182,000	187,000	54,000	54,000	31,000	30,000	29,000	920,000
Halibut	...	...	...	...	...	39,000	51,000	37,000	42,000	5,000	24,000	...	198,000
Lingcod	3,000	...	1,000	1,000	2,000	24,000	25,000	5,000	5,000	4,000	1,000	8,000	79,000
Ocean Perch, Pacific	14,000	...	...	4,000	4,000	14,000	43,000	19,000	34,000	20,000	61,000	26,000	239,000
Rockfish	4,000	...	...	7,000	13,000	26,000	22,000	5,000	5,000	37,000	7,000	4,000	130,000
Salmon	...	...	...	...	...	...	...	1,000	1,000	...	3,000	3,000	8,000
Sole	39,000	...	...	29,000	41,000	137,000	112,000	102,000	94,000	52,000	82,000	76,000	764,000
Other	...	1,000	...	...	...	...	...	...	...	...	...	...	1,000
Fish Sticks (Cooked & Uncooked)	1,000	...	...	...	...	...	...	...	...	...	...	...	1,000
Round, Dressed, etc.:													
Halibut	...	...	...	...	162,000	3,139,000	3,339,000	2,180,000	2,232,000	1,737,000	210,000	...	12,999,000
Sablefish	...	...	...	1,000	1,000	2,000	31,000	108,000	195,000	127,000	402,000	92,000	959,000
Salmon: King	...	...	1,000	...	5,000	243,000	149,000	142,000	428,000	340,000	46,000	3,000	1,357,000
Silver	...	...	...	...	...	6,000	58,000	294,000	922,000	626,000	148,000	5,000	2,059,000
Chum	...	...	...	...	...	...	...	21,000	134,000	108,000	602,000	493,000	1,358,000
Other	...	...	...	...	...	...	8,000	8,000	40,000	...	...	...	56,000
Total Salmon	...	...	1,000	...	5,000	249,000	215,000	465,000	1,524,000	1,074,000	796,000	501,000	4,830,000
Smelt	...	1,000	35,000	33,000	19,000	8,000	127,000	42,000	7,000	1,000	...	...	273,000
Other Fish	20,000	2,000	8,000	9,000	20,000	11,000	1,000	...	30,000	43,000	171,000	10,000	325,000
TOTAL Frozen Fish	115,000	12,000	123,000	563,000	824,000	4,210,000	4,328,000	3,075,000	4,362,000	3,307,000	2,254,000	976,000	24,149,000
FROZEN SHELLFISH													
Crabs & Crabmeats	15,000	62,000	93,000	170,000	371,000	141,000	2,000	...	...		...	2,000	856,000
Oysters	34,000	55,000	31,000	34,000	50,000	31,000	10,000	...	...	...	...	18,000	263,000
Shrimp: Raw, Headless	...	...	...	...	...	...	...	...	...	...	4,000	...	4,000
Other Shellfish	...	6,000	...	5,000	53,000	...	...	...	1,000	1,000	2,000	1,000	69,000
TOTAL Shellfish	49,000	123,000	124,000	209,000	474,000	172,000	12,000	...	1,000	1,000	6,000	21,000	1,192,000
TOTAL FROZEN FISH & SHELLFISH	164,000	135,000	247,000	772,000	1,298,000	4,382,000	4,340,000	3,075,000	4,363,000	3,308,000	2,260,000	997,000	25,341,000

1958-CALIFORNIA FISH FREEZINGS-1958

(Pounds)

SPECIES	Nov. '57	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	Oct.	TOTAL
FROZEN FISH:													
Bait & Animal Food	283,000	263,000	1,356,000	412,000	489,000	410,000	542,000	672,000	399,000	684,000	756,000	721,000	6,987,000
Fillets:													
Blocks & Slabs	...	...	...	...	3,000	...	4,000	4,000	8,000	2,000	...	10,000	31,000
Cod	2,000	...	...	1,000	1,000	3,000	1,000	1,000	...	2,000	...	...	11,000
Flounder	...	...	...	...	...	1,000	...	...	...	...	...	...	1,000
Lingcod	...	1,000	...	...	2,000	...	4,000	3,000	...	...	...	...	10,000
Rockfish	1,000	1,000	...	...	...	...	...	...	2,000	...	...	...	4,000
Sole	1,000	...	...	...	1,000	...	6,000	6,000	1,000	...	...	...	15,000
Other Fillets	22,000	25,000	3,000	34,000	42,000	60,000	188,000	65,000	170,000	181,000	66,000	66,000	922,000
Halibut	...	...	...	...	...	43,000	97,000	42,000	38,000	8,000	3,000	7,000	238,000
Mackerel	10,000	11,000	5,000	10,000	4,000	19,000	8,000	12,000	11,000	35,000	13,000	76,000	214,000
Sablefish	14,000	10,000	...	...	...	12,000	21,000	48,000	11,000	4,000	14,000	14,000	148,000
Salmon:													
King or Chinook	...	...	...	...	...	...	5,000	58,000	66,000	35,000	7,000	9,000	180,000
Silver or Coho	...	...	...	...	...	...	7,000	7,000	6,000	2,000	...	...	22,000
Sea Bass	...	6,000	...	5,000	6,000	...	1,000	8,000	34,000	5,000	4,000	4,000	73,000
Smelt	...	...	1,000	...	1,000	...	...	...	1,000	...	...	...	3,000
Swordfish	2,000	...	...	...	...	...	...	...	21,000	2,000	...	...	25,000
Tuna	5,000	...	...	...	7,000	7,000	8,000	7,000	8,000	36,000	327,000	101,000	506,000
Unclassified	60,000	108,000	92,000	160,000	156,000	169,000	148,000	176,000	272,000	148,000	278,000	127,000	1,894,000
TOTALS:													
Salt Water Fish	400,000	425,000	1,457,000	622,000	712,000	724,000	1,040,000	1,109,000	1,048,000	1,144,000	1,468,000	1,135,000	11,284,000
Fresh Water Fish - All Varieties	...	32,000	...	2,000	...	...	...	1,000	...	...	1,000	2,000	38,000
FROZEN SHELLFISH													
Clams & Clam Meats	...	...	3,000	34,000	11,000	24,000	...	...	127,000	134,000	10,000	...	343,000
Crabs & Crabmeat	6,000	46,000	149,000	206,000	346,000	179,000	103,000	20,000	15,000	6,000	...	...	1,076,000
Lobster Tails (Spiny)	142,000	142,000	57,000	37,000	36,000	2,000	1,000	1,000	...	...	8,000	154,000	580,000
Shrimp & Prawns (Incl. meat)	...	...	3,000	...	107,000	5,000	22,000	22,000	12,000	20,000	27,000	3,000	221,000
Squid	...	1,000	129,000	98,000	43,000	...	1,000	...	...	...	...	...	272,000
Other Shellfish	...	...	1,000	...	5,000	1,000	...	...	...	...	...	5,000	12,000
TOTAL Shellfish	148,000	189,000	342,000	375,000	548,000	211,000	127,000	43,000	154,000	160,000	45,000	162,000	2,504,000

Dungeness and King; and in oysters, where improved techniques of freezing the oysters individually are overcoming some of the earlier problems of merchandising.

It is true that the practice of freezing King crab perhaps did not keep pace with canning of this variety, for the number of substantial operations

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Washington Eulachon Smelt Catches

YEAR	Cowlitz River (Pounds)	Grays River	Lewis River	Columbia River	TOTAL
1939	1,012,730	30,300	1,342,675	184,348	2,570,053
1940	730,170	60,450	1,341,250	384,650	2,516,520
1941	1,794,233	......	376,975	42,919	2,214,127
1942	1,570,915	51,750	....	54,325	1,676,990
1943	2,973,340	3,675	270,375	124,500	3,371,790
1944	1,125,674	10,900	504,000	249,522	**1,942,771
1945	2,048,438	42,753	1,552,770	215,040	*3,891,463
1946	2,674,040	300	....	51,099	2,725,439
1947	1,192,663	......	....	128,280	1,320,943
1948	2,197,810	......	547,590	296,240	3,041,640
1949	750	250	1,940,850	387,701	2,329,551
1950	31,320	11,600	557,157	379,730	***980,832
1951	....	......	1,050	649,838	651,268'
1952	377,754	......	....	400,747	796,309'
1953	799,788	15,555	....	206,909	1,025,052'
1954	792,902	......	360,871	308,742	1,478,680'
1955	1,344,674	......	....	408,833	1,753,507
1956	575,055	......	....	397,265	1,004,870
1957	987,804	2,165	....	209,924	1,199,893
1958	2,239,398	....	....	108,687	§2,382,472

*Includes 32,462 lbs. caught in Kalama River. **Includes 44,300 lbs. from Kalama River, 7,675 lbs. from Naselle River, and 700 lbs. from Nemah River. ***Includes 1,025 lbs. taken in Kalama River.
' Total includes minor catches from the Kalama River: 16,165 lbs. in 1954; 32,550 lbs. in 1956.
§ Total includes 35,651 lbs. from the Quinault River and 736 lbs. from the Queets River in 1958.

was curtailed by transfer to the canning phase, which also saw the entrance of at least two substantial canning concerns.

- Freezing crabs in the shell continued in 1958 the remarkable growth which it had exhibited the year before. It was in 1957 that the freezing of eviscerated crab in the shell was first introduced, scoring an instant success. Through 1958 the demand for crab frozen in this manner continued to grow strongly.

With the opening of 1958 the demand for this package seemed inclined to level-off, but the method still appears by far the most successful means yet developed for expanding the market range of Dungeness crab.

SALMON FREEZING IN CANADA BY MONTHS

(Pounds)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL
1943	42,410	76,821	1,722	1,410	46,691	579,333	1,289,797	1,842,880	3,306,198	4,693,989	2,738,670	194,089	14,814,010
1944	190,468	366,346	199,226	34,334	35,166	799,534	1,736,542	2,902,804	3,602,202	3,489,092	490,764	216,862	14,063,340
1945	419,230	95,244	360,661	19,945	158,305	822,475	822,475	3,789,008	4,264,479	4,264,479	1,313,675	401,122	16,731,098
1946	18,904	520,509	902,832	43,216	114,952	1,213,867	2,131,929	3,098,060	3,709,790	6,134,139	3,262,982	421,969	21,573,149
1947	271,572	221,343	270,066	41,620	342,709	921,265	2,328,428	2,659,952	2,628,493	6,477,323	1,873,407	48,000	18,084,178
1948	443,000	147,000	7,000	15,000	243,000	1,498,000	2,237,000	2,626,000	2,771,000	10,387,000	2,009,000	291,000	22,674,000
1949	157,000	22,000	33,000	107,000	242,000	1,935,000	2,961,000	4,565,000	3,917,000	7,362,000	1,463,000	24,000	22,788,000
1950	4,000	22,000	22,000	5,000	227,000	1,224,000	2,462,000	5,246,000	8,678,000	7,149,000	702,000	8,000	25,749,000
1951	25,000	72,000	2,000	11,000	229,000	1,114,000	2,677,000	4,329,000	4,690,000	6,989,000	1,311,000	16,000	21,465,000
1952	10,000	29,000	100,000	80,000	395,000	1,804,000	3,227,000	5,244,000	3,034,000	2,151,000	1,508,000	18,000	17,600,000
1953	28,000	72,000	30,000	86,000	349,000	1,512,000	2,934,000	4,749,000	5,149,000	6,872,000	665,000	38,000	17,149,000
1954	15,000	70,000	353,000	29,000	204,000	709,000	3,138,000	2,932,000	4,333,000	5,051,000	512,000	28,000	17,374,000
1955	53,000	32,000	47,000	41,000	107,000	914,000	3,579,000	4,165,000	2,850,000	1,218,000	148,000	30,000	13,184,000
1956	33,000	23,000	4,000	16,000	321,000	1,370,000	3,598,000	4,907,000	2,706,000	2,366,000	148,000	33,000	15,525,000
1957	50,000	18,000	30,000	60,000	221,000	1,159,000	3,152,000	3,156,000	1,458,000	627,000	148,000	26,000	10,105,000
1958	30,000	31,000	27,000	19,000	251,000	1,006,000	3,483,000	5,497,000	2,818,000	2,043,000	*	*	15,205,000

NOTE: All figures in accordance with latest reports. *Data not available. Source: Dominion Bureau of Statistics, Dept. of Trade & Commerce

1958 - OREGON TRAWL FISH LANDINGS - 1958

SPECIES	Oct '57	Nov. '57	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	TOTAL
SOLE:													
Petrale	86,711	79,573	13,247	15,384	8,680	59,642	68,963	143,947	138,178	128,121	97,378	71,114	910,938
English	136,226	111,174	8,005	58,624	87,671	235,543	215,830	161,301	151,956	248,144	231,073	83,396	1,728,943
Dover	200,395	267,481	28,973	7,555	15,820	83,677	244,760	419,718	593,178	718,709	325,420	453,218	3,358,904
Rex	26,519	50,735	1,580	16,037	12,554	84,386	71,195	73,331	67,362	130,121	70,580	32,123	636,523
Misc.	...	...	1,354	2,351	2,537	5,508	...	3,455	3,682	1,153	...	...	20,040
TOTAL SOLE	449,851	508,963	53,159	99,951	127,262	468,756	600,748	801,752	954,356	1,226,248	724,451	639,851	6,655,348
Flounders	73,377	18,362	4,638	38,989	86,048	6,322	55,873	33,625	92,817	46,357	62,903	27,521	546,832
Cod, True	45,344	36,221	1,950	72	.	18,863	28,275	93,678	66,701	124,013	52,222	18,412	485,751
Ling Cod	21,754	17,613	63	1,545	2,839	35,662	25,836	38,672	50,832	54,386	35,485	33,528	318,215
Rockfish	112,482	193,559	113,317	318,211	240,601	708,859	261,227	310,447	575,411	285,027	161,193	169,503	3,449,837
Ocean Perch	45,849	60,096	1,600	46,947	8,235	143,939	324,974	640,153	383,794	519,942	214,163	83,129	2,472,821
Misc.	1,221,689	573,504	87,486	195,992	231,606	1,219,872	923,107	1,395,450	2,599,228	1,698,945	1,493,625	1,098,143	12,738,64.
GRAND TOTAL	1,970,346	1,408,318	262,213	701,707	696,591	2,602,273	2,220,040	3,313,777	4,723,139	3,954,918	2,744,042	2,076,087	26,667,451

1958 - SAN DIEGO FRESH FISH LANDINGS - 1958

(POUNDS)

SPECIES	Nov. '56	Dec. '56	Jan. '57	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	TOTAL
Barracuda	3,518	585	..	3,052	..	2,662		.	...	1,916	...	8,098	19,791
Halibut, California		50	140	1,026	...	1,100	146	.	..		.	.	2,462
Mackerel	1,042	...	...	...	..	3,483	.		.		.	.	4,525
Rockfish	1,277	..	711	.	1,205	15,227	18,802	2,369	14,184	2,878	340	.	56,993
Sea Bass, Black	.	. .	. .	..	. .	776			.	.	498	463	1,737
" " White	2,227	8,752	16,362	3,713	8,926	2,206	420	19,695	69,186	40,352	5,724	31,260	208,823
Shark	2,545	207	436	1,417		2,186	1,560	870	796	156	1,188	412	11,773
Swordfish	.	..	..	.	..	.	.	..	3,156	. .	.		3,156
Tuna	. .	..	.	...	...	6,570	3,479	. .	2,138	.	839	[illegible]	13,373
Miscellaneous	..	. .	..	[illegible]	.	..	.	86	372	.	.		718
TOTAL	10,609	9,594	17,649	9,474	10,131	34,170	24,407	23,014	89,832	45,302	8,580	40,589	323,351

Alaska Fish Freezing by Months

	(Pounds)												
ITEM	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	TOTAL
FROZEN FISH													
Bait & Animal Food	2,000	1,353,000	376,000	695,000	210,000	...	15,000	271,000	185,000	3,000	3,000	...	3,113,000
Fillets & Steaks:													
Halibut	...	...	...	...	...	20,000	96,000	62,000	21,000	1,000	...	1,000	201,000
Round, Dressed, etc.:													
Halibut	...	...	...	...	557,000	3,540,000	5,803,000	4,070,000	2,649,000	1,478,000	163,000	...	18,260,000
Sablefish	...	...	...	...	...	7,000	114,000	402,000	248,000	167,000	376,000	27,000	1,341,000
Salmon: King	...	...	...	...	19,000	182,000	550,000	462,000	312,000	266,000	184,000	75,000	2,050,000
Silver	...	...	...	...	...	...	...	1,398,000	1,130,000	483,000	...	...	3,011,000
Chum	...	...	...	...	...	...	5,000	83,000	67,000	38,000	...	...	193,000
Unclassified	...	...	...	...	...	...	50,000	183,000	370,000	22,000	...	...	625,000
Total Salmon	...	...	...	...	19,000	182,000	605,000	2,126,000	1,879,000	809,000	184,000	75,000	5,879,000
Other Fish	...	...	...	...	4,000	1,000	...	26,000	...	...	...	...	31,000
TOTAL Frozen Fish	2,000	1,353,000	376,000	695,000	790,000	3,750,000	6,633,000	6,957,000	4,982,000	2,458,000	726,000	103,000	28,825,000
FROZEN SHELLFISH													
Crabs & Crabmeats	214,000	237,000	432,000	497,000	136,000	...	...	...	...	4,000	135,000	110,000	1,765,000
Shrimp:													
Raw, Headless	...	...	...	...	...	...	9,000	...	...	3,000	...	12,000	24,000
Other (Incl. Breaded)	16,000	17,000	9,000	...	...	11,000	13,000	...	...	7,000	7,000	...	80,000
TOTAL Shellfish	230,000	254,000	441,000	497,000	136,000	11,000	22,000	...	...	14,000	142,000	122,000	1,869,000
TOTAL FROZEN FISH & SHELLFISH	232,000	1,607,000	817,000	1,192,000	926,000	3,761,000	6,655,000	6,957,000	4,982,000	2,472,000	868,000	225,000	30,694,000

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PACIFIC COAST FROZEN FISH

YEAR	(Pounds)						YEAR
	Halibut	Salmon	Steelhead & Fillets	Sablefish	Miscellaneous	TOTAL	
1928	20,180,501	23,522,228	1,736,900	3,037,875	3,147,845	51,625,349	1928
1929	23,192,029	20,285,535	1,989,936	2,467,317	3,881,054	51,815,871	1929
1930	21,262,804	20,142,524	1,795,703	3,706,823	4,377,468	51,285,322	1930
1931	19,274,638	18,706,304	1,787,279	2,065,327	3,317,959	45,151,507	1931
1932	14,943,916	19,099,265	1,084,689	1,904,579	1,828,499	38,860,948	1932
1933	21,197,099	21,101,484	1,368,364	1,851,856	2,620,049	48,138,852	1933
1934	25,010,373	25,181,600	1,082,339	2,354,183	3,731,735	57,360,230	1934
1935	22,193,028	27,979,608	695,447	4,158,382	4,288,100	59,314,565	1935
1936	24,483,127	24,168,556	888,677	3,817,582	3,849,238	57,202,180	1936
1937	25,611,959	28,809,866	723,857	5,964,158	4,227,376	65,337,216	1937
1938	26,290,123	29,019,550	794,183	4,608,638	6,091,588	66,804,082	1938
1939	27,884,761	19,812,999	544,865	5,036,206	6,313,548	59,592,379	1939
1940	30,989,043	25,106,033	281,986	5,339,661	8,207,464	69,924,187	1940
1941	32,267,665	23,961,770	93,541	5,019,374	10,963,419	72,305,769	1941
1942	32,334,253	26,256,142	249,336	7,983,957	16,986,000	83,809,688	1942
1943	25,882,523	25,930,418	4,447,875	7,546,624	20,223,179	84,030,619	1943
1944	37,668,595	31,748,145	9,199,424	9,777,304	17,200,082	105,593,550	1944
1945	36,879,253	44,991,950	8,115,197	8,552,441	30,774,204	129,313,045	1945
1946	36,941,548	38,036,107	10,661,450	8,611,842	22,910,725	117,161,672	1946
1947	42,294,602	29,928,104	4,454,941	2,633,912	12,660,753	91,972,312	1947
1948	45,098,451	30,376,166	8,619,585	8,570,289	20,778,163	113,432,654	1948
1949	40,286,125	34,294,242	6,394,213	7,740,630	9,479,721	98,194,931	1949
1950	47,401,296	37,230,172	7,152,856	2,506,826	13,698,707	107,989,857	1950
1951	41,032,442	30,003,546	7,872,151	6,281,413	13,216,333	98,405,885	1951
1952	38,907,883	29,817,889	16,167,000	3,772,951	8,948,115	97,613,838	1952
1953	47,895,545	28,145,986	11,584,046	5,706,589	5,016,990	98,349,156	1953
1954	50,440,248	27,935,024	11,260,372	5,797,886	5,550,693	100,984,223	1954
1955	43,306,006	20,109,914	7,007,435	5,309,976	4,091,047	79,824,378	1955
1956	53,577,345	34,294,826	11,122,612	4,721,730	5,347,270	109,063,783	1956
1957	38,470,295	20,025,101	12,181,412	6,352,723	4,475,981	81,505,512	1957
1958	47,730,916	27,066,799	10,705,066	2,910,589	7,424,925	95,838,295	1958

NOTE:- Since 1942 Steelheads have been combined with Salmon. Figures given in this column for years after 1942 cover the quantities of frozen fillets of all varieties of fish reported. Data in this table based on individual reports of principals and custom storages to this journal. Data are for food fish only and do not include fish frozen for bait or animal food; nor do they include fish frozen for subsequent canning. Halibut flitches are reported under fillets.

BRITISH COLUMBIA FROZEN FISH PACKS

YEAR	(Pounds)						YEAR
	Halibut	Salmon	Steelhead & Fillets	Sablefish	Miscellaneous	TOTAL	
1928	6,922,064	10,183,276	503,798	707,488	1,793,317	20,190,943	1928
1929	7,013,413	7,971,042	324,123	533,000	1,305,898	17,147,476	1929
1930	5,375,642	6,544,460	414,720	645,142	741,386	13,721,350	1930
1931	5,467,170	5,758,952	414,000	292,829	240,469	12,173,420	1931
1932	6,197,495	7,672,062	533,244	307,922	228,740	14,939,463	1932
1933	6,620,254	7,158,967	344,974	388,751	471,924	14,984,870	1933
1934	8,956,815	10,182,469	40,672	180,119	920,509	20,280,582	1934
1935	9,756,717	10,707,787	226,000	789,000	861,860	22,341,364	1935
1936	9,504,340	11,320,303	234,690	1,266,555	742,043	23,062,931	1936
1937	9,550,661	11,698,592	200,361	1,378,442	698,481	23,526,537	1937
1938	10,870,867	12,662,933	324,000	1,329,009	987,260	26,174,069	1938
1939	13,414,006	9,631,742	189,516	1,080,053	813,956	25,129,273	1939
1940	13,453,612	11,347,239	237,000	1,285,915	1,317,404	27,641,170	1940
1941	14,560,498	9,632,364	91,913	1,604,554	966,559	26,855,888	1941
1942	16,571,639	12,150,338	18,046	1,697,327	3,541,929	33,979,279	1942
1943	10,397,337	13,313,250	60,076	2,320,559	2,667,881	28,759,103	1943
1944	12,574,036	14,793,573	572,315	1,856,055	3,763,055	33,559,190	1944
1945	10,290,942	19,931,674	1,745,529	1,254,623	5,890,142	39,112,910	1945
1946	12,782,294	14,384,544	1,972,000	1,778,855	11,486,110	42,403,803	1946
1947	14,930,795	13,583,850	1,057,828	729,492	6,357,106	36,659,071	1947
1948	11,512,287	15,209,533	1,650,856	1,651,028	18,236,028	48,259,732	1948
1949	12,629,300	19,584,100	3,480,500	1,967,500	6,946,700	44,608,100	1949
1950	15,081,000	23,425,000	701,789	271,848	5,393,954	44,873,591	1950
1951	13,358,332	16,000,909	2,292,931	1,050,718	7,492,483	40,195,373	1951
1952	12,992,587	17,351,803	7,418,334	883,769	3,720,635	42,367,128	1952
1953	18,214,460	14,032,572	5,462,997	1,078,236	524,395	39,312,660	1953
1954	16,268,341	12,354,783	4,687,477	838,577	749,663	34,898,841	1954
1955	15,311,383	10,095,148	1,052,911	936,661	1,163,657	28,559,760	1955
1956	20,074,256	15,891,317	5,532,963	430,934	959,490	42,888,960	1956
1957	13,461,740	8,357,870	6,137,929	943,047	583,237	29,483,823	1957
1958	15,707,209	15,598,186	4,932,102	213,598	1,442,444	37,893,539	1958

NOTE:- Since 1942 all Steelheads have been combined with Salmon; and figures given in the "Steelheads and Fillets" column for years since 1942 cover quantities of fillets of all varieties of fish reported. Data are for food fish only and do not include fish frozen for bait or animal food, nor for subsequent canning. Halibut flitches are included under fillets.

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U.S. Production of Fish Sticks, by Areas

Area	January - March				April - June				July - September			
	1958		1957		1958		1957		1958		1957	
	Firms	Pounds	Firms	Pounds	Firms	Pounds	Firms	Pounds	Firms	Pounds	Firms	Pounds
Atlantic Coast States	24	14,070,000	26	11,682,000	24	11,449,000	25	9,355,000	21	10,753,000	23	10,868,000
Interior & Gulf States	5	1,452,000	4	1,522,000	4	1,178,000	5	956,000	4	1,759,000	4	1,207,000
Pacific Coast States	11	1,415,000	11	1,279,000	11	1,161,000	11	910,000	11	1,227,000	11	1,076,000
TOTAL	40	16,937,000	41	14,483,000	39	13,788,000	41	11,221,000	36	13,739,000	38	13,151,000

1958 - FROZEN FILLETS - 1958

(Pounds)

ITEM	Dec. '57	Jan '58	Feb.	March	April	May	June	July	August	Sept.	Oct	Nov.	TOTAL
WASHINGTON													
Blocks & Slabs	..	..	..	1,000	...	...	...	...	...	...	...	2,000	3,000
Cod	3,000	3,000	..	188,000	159,000	182,000	187,000	54,000	54,000	31,000	30,000	29,000	920,000
Halibut	..	..	..	...	...	39,000	51,000	37,000	42,000	5,000	24,000	...	198,000
Lingcod	3,000	..	1,000	1,000	2,000	24,000	25,000	5,000	5,000	4,000	1,000	8,000	79,000
Ocean Perch	14,000	..	..	4,000	4,000	14,000	43,000	19,000	34,000	20,000	61,000	26,000	239,000
Rockfish	4,000	..	..	7,000	13,000	26,000	22,000	5,000	5,000	37,000	7,000	4,000	130,000
Salmon	..	..	..	...	...	...	...	1,000	1,000	...	3,000	3,000	9,000
Sole	39,000	1,000	..	29,000	41,000	137,000	112,000	102,000	94,000	52,000	82,000	76,000	764,000
TOTAL Washington	63,000	4,000	1,000	230,000	219,000	422,000	440,000	223,000	235,000	149,000	208,000	148,000	2,342,000
OREGON													
Blocks & Slabs	5,000	8,000	15,000	6,000	22,000	...	11,000	23,000	13,000	19,000	...	90,000	212,000
Cod	..	..	..	13,000	14,000	19,000	12,000	17,000	4,000	1,000	1,000	2,000	83,000
Halibut	..	..	..	...	37,000	87,000	161,000	138,000	102,000	125,000	130,000	93,000	873,000
Lingcod	..	..	..	...	1,000	...	...	...	...	...	...	...	1,000
Ocean Perch	..	1,000	3,000	15,000	36,000	57,000	88,000	58,000	24,000	17,000	17,000	27,000	343,000
Rockfish	..	1,000	6,000	32,000	...	20,000	16,000	17,000	7,000	5,000	3,000	1,000	108,000
Salmon	..	..	51,000	...	...	4,000	...	26,000	61,000	25,000	25,000	33,000	225,000
Sole	..	...	2,000	5,000	25,000	57,000	46,000	155,000	149,000	66,000	66,000	16,000	587,000
TOTAL Oregon	5,000	10,000	77,000	71,000	135,000	244,000	334,000	434,000	360,000	258,000	242,000	262,000	2,432,000
PACIFIC NORTHWEST TOTAL	68,000	14,000	78,000	301,000	354,000	666,000	774,000	657,000	595,000	407,000	450,000	410,000	4,774,000

OREGON OTTER TRAWL LANDINGS

YEAR	SOLE				Flounders	"Turbot"	"Cod" Miscel.	Lingcod	Rockfish	Ocean Perch	Total
	Petrale	English	Dover	Other							
1942	3,745,236	227,783	2,308,308	1,671,162	443,840	71,137	47,255	989,142	1,728,299	1,086,242	12,318,404
1943	3,805,094	898,639	6,431,666	2,239,125	858,051	2,831,013	32,731	934,878	6,762,494	1,601,368	26,395,059
1944	2,019,148	1,057,701	1,593,469	254,400	877,048	700,147	594,810	1,208,051	11,266,874	398,836	19,970,484
1945	1,574,143	1,096,601	2,704,216	238,507	1,024,288	168,811	412,731	1,015,215	17,365,866	40,554	25,640,932
1946	2,984,092	3,950,609	3,197,988	132,136	1,279,839	297,708	260,574	1,150,803	10,671,012	31,310	23,956,071
1947	1,443,936	1,883,438	2,031,905	139,791	667,347	723,497	30,194	569,226	4,637,594	92,344	11,688,763
1948	2,605,460	3,266,422	2,802,181	272,878	1,428,660	1,219,208	29,083	798,952	3,890,003	338,739	16,651,586
1949	1,514,762	1,092,493	3,003,574	299,785	272,042	1,723,963	4,821	728,464	3,307,595	591.842	12,539,341
1950	3,151,833	2,399,103	6,306,144	392,775	355,125	...	349,660	649,719	4,018,991	Dogfish	17,623,350
1951	2,052,366	2,420,333	8,227,444	859,820	351,001	...	672,656	887,187	1,659,212	3,524,208	20,654,227
1952	1,545,540	1,949,294	7,289,059	1,308,778	242,535	...	388,111	511,269	3,722,048	4,431,991	21,388,625
1953	1,028,578	1,784,309	3,146,709	1,989,828	317,293	844,921	419,852	315,347	3,012,714	3,281,196	16,140,747
1954	959,674	1,417,588	2,580,257	2,096,807	561,723	1,112,708	1,190,474	276,952	2,608,517	2,882,847	15,687,547
1955	1,584,946	1,392,162	3,549,087	2,946,087	827,285	1,822,344	2,603,029	419,611	3,183,917	2,847,851	21,176,319
1956	1,204,203	884,026	2,557,140	2,254,749	261,566	609,842	10,013,316	251,033	2,456,212	3,199,251	23,691,338
1957	2,173,978	1,692,966	3,691,189	595,117	460,453	...	11,866,762	595,796	3,566,518	3,324,465	27,967,244
1958	910,938	1,728,943	3,358,904	656,563	546,832	...	13,224,398	318,215	3,449,837	2,472,821	26,667,451

HOLDINGS OF FROZEN SALMON IN CANADA BY MONTHS

(Pounds)

Year	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1943	6,388,157	4,182,422	3,187,367	1,424,622	749,130	421,899	618,566	1,292,092	2,491,083	3,922,968	7,861,284	9,720,826	1943
1944	8,245,459	6,228,542	4,036,324	2,572,067	1,723,599	1,192,453	1,323,970	2,225,799	4,458,686	7,569,646	9,592,929	8,525,062	1944
1945	5,754,484	4,212,779	3,064,075	1,916,384	1,224,894	653,660	975,614	2,603,913	5,848,648	8,889,338	12,264,609	11,286,939	1945
1946	8,995,555	6,201,817	4,664,805	2,859,525	1,470,544	719,534	1,477,539	2,310,009	4,287,429	6,910,578	10,414,810	12,529,428	1946
1947	10,484,688	8,068,793	5,641,958	4,244,254	3,066,183	2,041,997	1,849,142	3,317,623	4,788,724	6,115,604	10,991,495	11,346,880	1947
1948	12,471,000	10,916,000	8,925,000	5,322,000	3,454,000	2,821,000	2,721,000	3,992,000	4,679,000	6,007,000	12,481,000	10,379,000	1948
1949	9,310,000	7,786,000	5,574,000	3,880,000	2,997,000	2,467,000	3,220,000	4,770,000	7,350,000	9,306,000	14,987,000	11,573,000	1949
1950	9,573,000	8,243,000	6,045,000	4,095,000	2,916,000	2,193,000	2,526,000	3,493,000	7,153,000	13,008,000	16,790,000	14,409,000	1950
1951	12,032,000	10,172,000	6,808,000	5,009,000	4,023,000	2,597,000	2,640,000	4,450,000	7,560,000	10,811,000	16,479,000	14,998,000	1951
1952	13,342,000	10,838,000	9,247,000	6,657,000	5,785,000	4,394,000	5,185,000	6,446,000	9,239,000	10,532,000	12,236,000	11,480,000	1952
1953	10,455,000	8,096,000	5,848,000	4,287,000	2,985,000	2,649,000	3,477,000	4,480,000	7,533,000	10,450,000	15,498,000	13,095,000	1953
1954	11,591,000	10,054,000	7,516,000	4,627,000	3,527,000	2,385,000	2,143,000	4,538,000	6,052,000	9,597,000	12,866,000	12,014,000	1954
1955	9,769,000	7,576,000	5,866,000	3,654,000	2,634,000	1,754,000	1,801,000	3,334,000	6,230,000	6,964,000	7,909,000	5,470,000	1955
1956	4,380,000	3,059,000	2,125,000	1,473,000	1,156,000	938,000	2,060,000	4,940,000	8,465,000	10,869,000	10,852,000	10,241,000	1956
1957	9,093,000	8,479,000	7,434,000	5,627,000	4,545,000	3,921,000	4,275,000	6,013,000	10,119,000	8,213,000	7,935,000	7,323,000	1957
1958	6,517,000	4,359,000	3,010,000	2,463,000	2,016,000	1,986,000	2,664,000	4,899,000	8,185,000	10,536,000	12,095,000	*	1958

NOTE: All figures in accordance with latest reports. Source: Dominion Bureau of Statistics, Department of Trade and Commerce. *Data not available.

1958 FILLET IMPORTS TO U.S.

(Pounds)

Country	Oct. '57	Nov. '57	Dec. '57	Jan. '58	Feb.	March	April	May	June	July	August	Sept.	TOTAL
Canada	20,579,000	10,312,000	7,388,000	12,751,000	8,231,000	8,270,000	8,616,000	11,668,000	12,996,000	16,876,000	13,207,000	12,727,000	143,621,000
Denmark	84,000	89,000	736,000	51,000	522,000	1,351,000	1,586,000	2,290,000	1,363,000	1,141,000	357,000	806,000	10,376,000
W. Germany	145,000	124,000	207,000	352,000	505,000	557,000	143,000	335,000	293,000	400,000	274,000	184,000	3,519,000
Iceland	2,315,000	534,000	2,493,000	1,145,000	4,320,000	446,000	3,293,000	1,937,000	3,434,000	5,708,000	3,638,000	1,741,000	31,004,000
Japan	982,000	989,000	1,117,000	1,403,000	1,149,000	1,786,000	1,335,000	1,245,000	1,017,000	986,000	823,000	679,000	13,511,000
Mexico	15,000	2,000	4,000	6,000	24,000	51,000	85,000	140,000	108,000	91,000	67,000	47,000	640,000
Norway	948,000	549,000	59,000	592,000	339,000	80,000	228,000	716,000	....	586,000	157,000	544,000	4,898,000
Peru	73,000	62,000	7,000	3,000	3,000	....	....	....	...	....	....	....	148,000
Other Cy.	505,000	810,000	418,000	285,000	642,000	373,000	988,000	935,000	556,000	389,000	837,000	773,000	7,511,000
TOTAL	25,646,000	13,471,000	12,429,000	16,588,000	15,735,000	12,914,000	16,274,000	19,266,000	19,767,000	26,277,000	19,360,000	17,501,000	215,228,000

Puget Sound Frozen Fish Packs

(Pounds)

YEAR	Halibut	Salmon	Steelhead & Fillets	Sablefish	Miscellaneous	TOTAL	YEAR
1928	3,929,600	5,737,402	72,399	1,676,530	1,091,008	12,506,939	1928
1929	4,365,139	5,737,367	118,034	1,339,912	1,272,772	12,833,224	1929
1930	4,008,690	6,767,538	58,246	2,057,845	2,114,206	15,006,525	1930
1931	7,124,976	7,034,178	57,815	941,986	742,543	15,901,498	1931
1932	6,241,135	4,764,945	11,375	1,045,588	470,872	12,533,915	1932
1933	8,575,289	8,685,729	*160,080	842,039	456,298	18,719,435	1933
1934	9,592,971	8,276,309	* 54,479	1,381,287	1,306,520	20,611,566	1934
1935	7,056,953	10,996,930	...	1,740,122	1,415,122	20,939,915	1935
1936	7,395,485	6,704,971	...	1,309,243	811,273	16,220,972	1936
1937	8,490,747	10,121,808	...	2,314,399	1,578,453	22,505,407	1937
1938	8,174,462	7,796,087	...	2,248,790	2,342,902	20,562,241	1938
1939	7,795,768	4,488,450	...	1,887,336	1,827,266	15,998,820	1939
1940	8,645,576	6,748,021	...	1,832,112	1,600,432	18,826,141	1940
1941	9,440,017	7,569,858	...	1,348,723	2,345,540	20,704,138	1941
1942	6,815,874	5,608,307	– Fillets –	1,221,946	3,066,177	16,712,304	1942
1943	4,250,010	2,530,755	429,394	860,577	6,846,616	14,917,352	1943
1944	5,237,071	4,264,315	2,893,179	2,305,848	3,777,952	18,478,365	1944
1945	6,728,420	9,030,403	4,193,268	1,071,769	5,673,660	26,697,547	1945
1946	8,050,947	6,388,388	3,895,400	1,714,185	2,807,240	22,856,160	1946
1947	4,933,377	4,241,310	1,658,152	921,204	1,004,330	12,758,373	1947
1948	7,152,574	4,355,399	2,393,487	1,519,514	797,882	16,218,856	1948
1949	7,535,497	5,123,763	1,192,440	1,846,314	1,088,490	16,786,504	1949
1950	6,270,705	4,706,925	1,166,019	1,547,807	4,520,880	18,917,886	1950
1951	7,789,536	4,314,516	2,119,910	1,791,000	2,275,577	18,290,539	1951
1952	8,345,650	5,532,676	3,400,786	1,661,919	751,310	19,296,340	1952
1953	9,473,444	6,380,981	1,654,189	1,651,734	462,602	19,622,950	1953
1954	12,201,900	4,740,637	2,651,084	1,498,376	460,545	21,552,542	1954
1955	11,058,245	4,034,495	2,913,312	1,638,426	714,435	20,358,913	1955
1956	11,224,579	6,746,753	3,235,661	2,002,242	1,256,057	24,465,292	1956
1957	10,372,000	3,713,634	2,736,000	1,979,000	1,085,000	19,885,634	1957
1958	12,999,000	4,830,086	2,342,597	1,137,445	1,036,496	22,345,624	1958

NOTE:- Since 1942 Steelheads have been combined with Salmon. Figures given in this column cover the quantities of frozen fillets of all varieties of fish reported.
* All Steelheads frozen on Puget Sound were Columbia River fish shipped to Seattle for freezing. Data are for food fish only and do not include fish frozen for bait or animal food; nor do they include fish frozen for subsequent canning. Halibut flitches are reported under fillets.

COLUMBIA RIVER FROZEN FISH PACKS

(Pounds)

YEAR	Halibut	Salmon	Steelhead & Fillets	Sablefish	Miscellaneous	TOTAL	YEAR
1928	...	326,541	1,156,598	30,000	102,188	1,615,327	1928
1929	24,000	607,483	1,544,779	78,000	233,527	2,487,789	1929
1930	14,700	374,322	1,322,737	...	547,006	2,258,765	1930
1931	4,699	392,581	1,311,033	35,600	559,993	2,303,906	1931
1932	...	733,234	538,795	10,000	54,427	1,336,456	1932
1933	75,000	886,789	859,563	...	153,834	1,975,186	1933
1934	199,362	489,183	959,916	49,620	154,765	1,852,846	1934
1935	161,827	943,442	461,847	60,494	243,934	1,871,544	1935
1936	48,818	178,922	629,896	117,624	123,920	1,099,182	1936
1937	25,000	391,000	520,996	35,000	61,253	1,033,249	1937
1938	211,350	207,478	465,909	118,465	119,594	1,122,796	1938
1939	252,692	607,100	352,884	135,347	243,600	1,591,623	1939
1940	553,269	267,370	33,573	98,642	253,634	1,206,488	1940
1941	602,210	178,498	1,628	118,120	761,013	1,661,469	1941
1942	216,684	563,780	222,684	186,710	1,556,008	2,745,866	1942
1943	161,452	956,719	3,958,405	359,050	2,311,503	7,747,129	1943
1944	628,285	1,917,542	5,733,930	178,742	758,745	9,217,244	1944
1945	506,242	2,655,787	2,176,400	270,634	8,670,915	14,279,978	1945
1946	555,884	4,373,849	4,511,986	416,003	3,147,126	13,004,848	1946
1947	618,266	1,272,508	1,681,488	60,786	985,697	4,618,745	1947
1948	410,091	1,187,802	4,241,705	329,857	...	6,169,455	1948
1949	324,527	458,280	2,567,863	289,205	121,994	3,761,869	1949
1950	417,651	483,068	3,382,682	63,081	333,117	4,679,599	1950
1951	291,936	735,305	3,199,153	189,694	124,761	4,540,849	1951
1952	219,223	1,157,484	3,827,761	166,072	136,084	5,506,624	1952
1953	389,483	630,630	2,382,420	204,842	676,081	4,283,456	1953
1954	864,352	788,963	1,672,109	154,456	210,124	3,690,004	1954
1955	276,224	554,345	1,121,886	118,000	123,275	2,193,730	1955
1956	450,762	1,790,544	1,290,170	203,583	288,374	4,023,433	1956
1957	871,000	793,000	2,023,000	302,180	313,000	4,302,180	1957
1958	527,000	558,115	2,432,000	70,000	725,985	4,313,100	1958

NOTE:- Since 1942 Steelheads have been combined with Salmon. Figures given in this column for years after 1942 cover quantities of frozen fillets of all varieties of fish reported. Data in this table based on reports of principals and custom freezers to this journal. Data are for food fish only and do not include fish frozen for bait or animal food; nor for subsequent canning. Halibut flitches are included under fillets.

PACIFIC FROZEN FISH

DISTRICT & YEAR	Halibut Pounds	Salmon Pounds	Fillets Pounds	Sablefish Pounds	Miscellaneous Pounds	TOTALS	DISTRICT & YEAR
1948							1948
Alaska	26,020,134	9,582,232	165,370	5,065,056	5,290	40,838,082	Alaska
British Columbia	11,512,287	15,209,533	1,650,856	1,651,028	4,210,412	34,234,116	British Columbia
Puget Sound & Wash. Coast	7,152,574	4,355,399	2,393,487	1,519,514	797,882	16,218,856	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	410,091	1,187,802	4,241,705	329,857	. . .	6,169,455	Columbia Riv. & Ore. Coast
California	3,365	41,200	168,167	4,834	1,728,963	1,946,429	California
TOTAL, 1948	45,098,451	30,376,166	8,619,585	8,570,289	6,742,547	99,407,038	TOTAL, 1948
1949							1949
Alaska	20,914,221	12,222,337	1,309	3,772,851	271,901	37,182,619	Alaska
British Columbia	12,629,300	19,584,100	3,480,500	1,967,500	6,946,700	44,608,100	British Columbia
Puget Sound & Wash. Coast	7,535,497	5,123,763	1,192,440	1,846,314	1,088,490	16,786,504	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	324,527	458,280	2,567,863	289,205	121,994	3,761,869	Columbia Riv. & Ore. Coast
California	5,912	124,301	790,780	6,547	3,083,428	4,010,968	California
TOTAL, 1949	41,409,457	37,512,781	8,032,892	7,882,417	11,512,513	106,350,060	TOTAL, 1949
1950							1950
Alaska	25,625,940	8,467,426	5,113	566,965	98,409	34,763,853	Alaska
British Columbia	15,081,000	23,425,000	701,789	271,848	5,393,954	44,873,591	British Columbia
Puget Sound & Wash. Coast	6,270,705	4,706,925	1,166,019	1,547,807	5,226,430	18,917,886	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	417,651	483,068	3,383,682	63,081	333,117	4,679,599	Columbia Riv. & Ore. Coast
California	60,000	147,753	1,897,253	57,125	2,646,797	4,754,928	California
TOTAL, 1950	47,401,296	37,230,172	7,152,856	2,506,826	13,698,707	107,989,857	TOTAL, 1950
1951							1951
Alaska	19,577,948	8,780,110	6,888	3,241,556	820,473	32,427,075	Alaska
British Columbia	13,358,332	16,000,909	2,292,931	1,050,718	7,492,483	40,195,373	British Columbia
Puget Sound & Wash. Coast	7,789,536	4,314,516	2,119,910	1,791,000	2,275,577	18,290,539	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	291,936	735,305	3,199,153	189,694	124,761	4,540,849	Columbia Riv. & Ore. Coast
California	14,690	172,706	253,169	8,445	2,503,039	2,952,049	California
TOTAL, 1951	41,032,442	30,003,546	7,872,151	6,281,413	13,216,333	98,405,885	TOTAL, 1951
1952							1952
Alaska	17,341,747	5,327,279	8,977	988,520	205,955	23,872,478	Alaska
British Columbia	12,992,587	17,351,803	7,418,334	883,769	3,720,635	42,367,128	British Columbia
Puget Sound & Wash. Coast	8,345,650	5,532,676	3,004,786	1,661,919	751,310	19,296,341	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	219,223	1,157,484	3,827,761	166,072	136,084	5,506,624	Columbia Riv. & Ore. Coast
California	8,676	448,647	1,907,142	72,671	4,134,131	6,571,267	California
TOTAL, 1952	38,907,883	29,817,889	16,167,000	3,772,951	8,948,115	97,613,838	TOTAL, 1952
1953							1953
Alaska	19,727,501	6,399,247	46,675	2,599,418	730,465	29,503,306	Alaska
British Columbia	18,214,460	14,032,572	5,462,997	1,078,236	524,395	39,312,660	British Columbia
Puget Sound & Wash. Coast	9,473,444	6,380,981	1,654,189	1,651,734	462,602	19,622,950	Puget Sound & Wash. Coast
Columbia River & Ore. Coast	389,483	630,630	2,382,420	204,842	676,081	4,283,456	Columbia Riv. & Ore. Coast
California	90,657	702,556	2,037,765	172,359	2,623,447	5,626,784	California
TOTAL, 1953	47,895,545	28,145,986	11,584,046	5,706,589	5,016,990	98,349,156	TOTAL, 1953
1954							1954
Alaska	20,987,363	9,341,468	57,468	3,072,158	203,706	33,662,163	Alaska
British Columbia	16,268,341	12,354,783	4,687,477	838,571	749,663	34,898,841	British Columbia
Puget Sound & Wash. Coast	12,201,900	4,740,637	2,651,084	1,498,376	460,545	21,552,542	Puget Sound & Wash. Coast
Columbia River & Ore. Coast	864,352	788,963	1,672,109	154,456	210,124	3,690,004	Columbia Riv. & Ore. Coast
California	118,292	709,173	2,192,234	234,319	3,926,655	7,180,673	California
TOTAL, 1954	50,440,248	27,935,024	11,260,372	5,797,886	5,550,693	100,984,223	TOTAL, 1954
1955							1955
Alaska	16,597,154	4,459,926	328,613	2,389,290	102,615	23,877,598	Alaska
British Columbia	15,311,383	10,095,148	1,052,911	936,661	1,163,657	28,559,760	British Columbia
Puget Sound & Wash. Coast	11,058,245	4,034,495	2,913,312	1,638,426	714,435	20,358,913	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	276,224	554,345	1,121,886	118,000	123,275	2,193,730	Columbia Riv. & Ore. Coast
California	63,000	966,000	1,590,713	227,599	1,987,065	4,834,377	California
TOTAL, 1955	43,306,006	20,109,914	7,007,435	5,309,976	4,091,047	79,824,378	TOTAL, 1955
1956							1956
Alaska	21,718,748	8,603,212	3,818	1,919,865	77,455	32,323,098	Alaska
British Columbia	20,074,256	15,891,317	5,532,963	430,934	959,490	42,888,960	British Columbia
Puget Sound & Wash. Coast	11,224,579	6,746,753	3,235,661	2,002,242	1,256,057	24,465,292	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	450,762	1,790,544	1,290,170	203,583	288,374	4,023,433	Columbia Riv. & Ore. Coast
California	109,000	1,263,000	1,060,000	165,106	2,765,894	5,363,000	California
TOTAL, 1956	53,577,345	34,294,826	11,122,612	4,721,730	5,347,270	109,063,783	TOTAL, 1956
1957							1957
Alaska	13,710,555	6,890,597	266,483	2,803,496	19,744	23,690,875	Alaska
British Columbia	13,461,740	8,357,870	6,137,929	943,047	583,237	29,483,823	British Columbia
Puget Sound & Wash. Coast	10,372,000	3,713,634	2,736,000	1,979,000	1,085,000	19,885,634	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	871,000	793,000	2,023,000	302,180	313,000	4,302,180	Columbia Riv. & Ore. Coast
California	55,000	270,000	1,018,000	325,000	2,475,000	4,143,000	California
TOTAL, 1957	38,470,295	20,025,101	12,181,412	6,352,723	4,475,981	81,505,512	TOTAL, 1957
1958							1958
Alaska	18,259,707	5,879,030	3,600	1,341,179	150,000	25,633,516	Alaska
British Columbia	15,707,209	15,598,186	4,932,102	213,598	1,442,444	37,893,539	British Columbia
Puget Sound & Wash. Coast	12,990,000	4,830,086	2,342,597	1,137,445	1,036,496	22,345,624	Puget Sound & Wash. Coast
Columbia Riv. & Ore. Coast	527,000	558,115	2,432,000	70,000	725,985	4,313,100	Columbia Riv. & Ore. Coast
California	238,000	201,382	994,767	148,367	4,070,000	5,652,516	California
TOTAL, 1958	47,730,916	27,066,799	10,705,066	2,910,589	7,424,925	95,838,295	TOTAL, 1958

NOTE:- Since 1942 Steelheads have been combined with salmon. Figures given in this column cover the quantities of frozen fillets of all varieties of fish reported. British Columbia figures include only amounts directly reported by owners of the fish and do not include unreported quantities in custom freezers. Data cover food fish only and do not include fish frozen for bait or animal food, nor for subsequent canning. Halibut flitches are reported under fillets.

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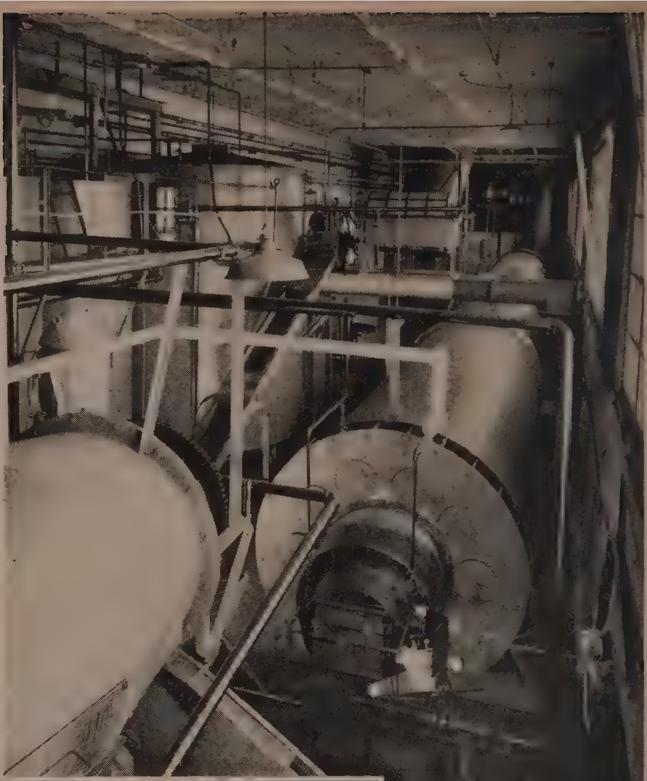
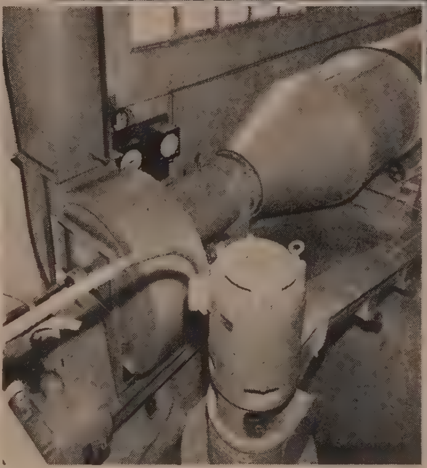


(Above) Standard Low Temperature Fish Meal Dryer in operation at Pan Pacific Fisheries, Inc., Terminal Island, California.



(Left) Dryer discharge end. All fish meal is removed from dryer through the fan for additional drying while being air-conveyed to cyclone.

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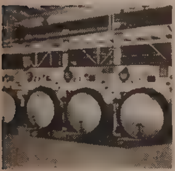
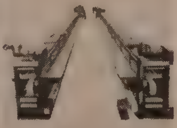
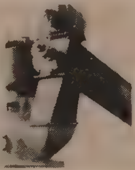


Retorts — quick closing doors



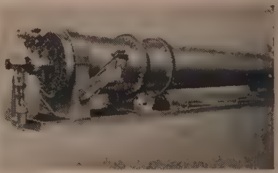
Conveyor type packing tables



Mills and disintegrators

Cyclones and sacking equipment

Cookers and presses



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Pacific Coast Fish Oil and Meal-1958

Regions	Fish Meal Tons	Herring Oil Gallons	Sardine Oil Gallons	Other Fish Oils Gallons	Total Oil Gallons	Regions
Alaska	6,484	1,499,300	---	12,000	1,511,300	Alaska
British Columbia	35,173	4,746,609	---	522,500	5,269,109	British Columbia
Washington	2,350	35,000	---	175,000	210,000	Washington
Oregon	1,200	---	---	90,000	90,000	Oregon
California	28,994	---	839,786	598,952	1,438,738	California
TOTALS	71,851	6,280,909	839,786	1,398,452	8,519,147	TOTALS

By-Products Bounce Back

- Renewed operations in the Canadian herring fishery after the disastrous strike in 1957, supplemented by the comeback in California sardines and the new record production of tuna in 1958, enabled the Pacific fish by-products business to recover substantially from its dip the year before.

British Columbia herring production through the fall season of 1958 ranked with the heaviest in the history of that astonishing fishery, and the high yield was continuing into 1959 at a pace which promised the possibility of a seasonal record for 1958-9.

- Alaska herring operations were varied. Kodiak suffered the most complete failure of any year in which operations were attempted; and Prince William Sound was a bitter disappointment.

Southeast Alaska, on the other hand, found very good fishing, and enters 1959 with sound prospects of a comparable year.

- Although California's sardine fishery produced more than 100,000 tons, and yielded almost 10 times as much sardine oil as the year before, the total still was comparatively small in comparison with the years of the by-product industry's greatness in California.

No "open" reduction permits are being issued in California and, in spite of the great increased catch, reduction for oil and meal is limited to cannery offal after 13.5 cases have been canned per ton of sardines purchased.

At the present buying price for sardines operators do not find it economically possible to use whole fish for reduction, even to the limit allowed by the 13.5-case canning quota. Accordingly, actual amount canned appears to run above 20 cases per ton, with resulting limiting effect upon sardine by-products totals.

- When, and whether, California will again permit "open" reduction of sardines, that is, the use of whole fish for reduction under permit and without regard to the 13.5-case quota, is a question to which the California industry is giving serious attention.

- With the steady rise of American tuna canning, by-products of this fishery are becoming more and more important in the American supply of fish oil and meal.

- In 1958 the Alaska herring reduction fishery failed to maintain its upward trend, the total catch falling to 41,788 tons. Although the catch in Southeastern Alaska was excellent (36,185 tons) and above the long-term average for the past quarter century, Prince William Sound and the Kodiak District produced the poorest catches on record (3,892 and 1,711 tons respectively).

As in the two preceding years the fishery was largely supported by the survival of the 1953 spawning. These age-group V fish accounted for more than 80% of the catches in Southeastern Alaska and the Kodiak area. In Prince William Sound the availability of age-group V was low, and 47% of the catch was from the I and II year age groups.

Twenty-two boats participated in the 1958 fishery, 14 in Southeastern Alaska and 4 each in Kodiak and Prince William Sound. The catch per boat-ton day remained high in Southeastern Alaska, which had a seasonal average of 1,100 pounds per unit of effort. This is slightly less than the average for 1957, although it is 350 pounds more than the Southeastern Alaska average for the past 27 years. Very low catches per unit of effort were evident in Prince William Sound (540 pounds) and in Kodiak (380 pounds).

Research efforts forming an integral part of the herring program are twofold in nature. Several short-term studies are designed to guide and assist in the immediate management of the fishery, whereas the long-term projects seek to isolate the underlying casual factors that determine abundance and fluctuation of herring stocks.

Annual surveys of the extent of herring spawning are generally indicative of the abundance of adult herring that contribute to the spawning. It is supposed that these adults are largely available to the ensuing summer fishery. Herring spawning in 1958 utilized 134 miles of beach in Southeastern Alaska. This compares favorably with the 132 miles recorded in 1957 and the 148 miles in 1956. Spawning occurred 7 to 10 days earlier than usual in all areas of Alaska this year,

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YEAR	OREGON					WASHINGTON					YEAR
	# Active Plants	Fish Meal Tons	Sardine or Pilchard Oil, Gals.	Other Fish Oils, Gals.	Total Fish Oil, Gals	# Active Plants	Fish Meal Tons	Sardine or Pilchard Oil, Gals.	Other Fish Oils, Gals.	Total Fish Oil, Gals.	
1958	1	1,200	...	90,000	90,000	6	2,350	..	210,000	210,000	1958
1957	1	1,600		83,000	83,000	6	1,676	..	139,000	139,000	1957
1956	1	2,000		86,000	86,000	4	4,905	...	153,960	153,960	1956
1955	1	1,800	...	72,000	72,000	4	4,206	...	204,231	204,231	1955
1954	1	1,519	...	51,380	51,380	4	5,635	...	244,343	244,343	1954
1953	2	1,607	...	53,000	53,000	4	2,690	...	169,000	169,000	1953
1952	2	744	...	19,000	19,000	4	2,217	...	138,140	138,140	1952
1951	2	1,150	...	24,000	24,000	4	2,047	...	132,638	132,638	1951
1950	3	1,260	...	23,085	23,085	5	1,032	...	110,960	110,960	1950
1949	3	...	...	26,700	26,700	5	1,754	...	111,868	111,868	1949
1948	4	1,228	114,928	...	114,928	9	3,269	...	210,923	210,923	1948
1947	4	2,040	228,558	17,626	246,184	8	4,548	44,375	201,863	246,238	1947
1946	3	1,633	120,336	13,391	133,727	10	3,730	186,690	154,733	341,423	1946
1945	3	907	...	26,000	26,000	7	3,542	78,558	158,958	237,516	1945
1944	2	1,200	...	50,000	50,000	5	901	960	64,500	65,460	1944
1943	3	1,365	32,000	26,000	58,000	6	2,901	277,627	78,000	355,627	1943
1942	2	861	25,014	8,200	33,214	6	2,003	27,787	168,600	196,387	1942
1941	4	2,969	398,235	...	398,235	11	4,168	400,102	152,389	552,491	1941
1940	5	592	114,717	...	114,717	11	1,451	35,656	145,174	180,830	1940
1939	6	3,933	833,300	...	833,300	8	4,026	672,066	103,500	775,566	1939
1938	6	2,933	718,830	...	718,830	10	4,986	1,153,339	74,392	1,227,731	1938
1937	5	2,775	689,159	...	689,159	6	3,886	808,396	125,400	933,797	1937
1936	9	2,864	481,512	70,985	552,497	4	1,710	193,467	82,800	276,267	1936
1935	7	4,763	1,104,389	39,985	1,144,374	2	1,032	...	110,960	110,960	1935

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a fact which may possibly be attributed to the recent general increase in ocean temperatures.

Collection of age composition. length, and weight data, as well as related statistics, must continue each year the herring fishery operates in order to accurately assess the condition of the stocks. In 1958 these data were transcribed to machine punch cards in the field through development of a portable IBM card punch. Efforts are continuing to increase the efficiency of this annual program.

Studies are being conducted on the interrelationship of herring and salmon, particularly the extent that troll-caught salmon are dependent on herring. Preliminary data indicate that in the inside waters of Southeastern Alaska herring occurred in 40% of the King and 17% of the Coho salmon stomachs that were collected throughout the summer months. Smelt-like fishes and other forms constituted the remaining food. The extent of utilization of herring as food varied greatly with the geographical area.

The greatest single need for the successful management of the herring fishery is knowledge of the number and extent of individual herring stocks. Serological (blood) analyses and mathematical studies of bone structure show great promise as methods of identifying discrete herring races, and much research effort is being devoted to this work.

To determine migration and the degree to which herring stocks mix, a herring tagging program is needed. Because of their size and of the method used in their processing, an external tag cannot be detected in herring, and it is necessary to develop an internal tag. During 1958 exploratory studies on the use of an internal radioactive magnetic tag were completed. Field testing of a device to detect and eject tagged herring from the processing plant's production line was successful. The magnetic feature of the tag alleviates any possibility of the radioactive substance entering the processing plant's fished product. It is planned to complete the necessary procedural matters in compliance with Atomic Energy Commission regulations in time to inaugurate a herring tagging program by spring of next year.

● The herring catch in Alaska is utilized principally in a reduction industry, the products of which are oil and meal. In addition, a bait fishery accounts for a small proportion of the total catch. In the early period of the herring fishery, much of the catch was salted and/or pickled, but at the end of the First World War (1918) the market for Alaska herring as food products declined, and the only pickled fish produced at the present time are for personal use.

After an early but slow start, the production of herring oil and meal reached considerable proportions, and in 1937 more than 138,000 tons of fish were taken for reduction purposes. As in other herring fisheries of the world, the Alaska catch is often dependent on the presence of one or two strong broods (year classes), and further, as in other herring fisheries, environmental conditions can apparently produce profound effects on the size of the stocks. For these reasons, and also possibly because of overfishing, the herring catch in Alaska declined to alarming levels in 1942. By 1946, however, the catch again reached a high level — only to drop to an all-time low in 1949. Such fluctuations in production hamper the development and expansion of the industry. In recent years the catch of herring in Southeastern Alaska has been limited by quota.

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The Shape of Tomorrow

• Industrial fishery products manufacture in 1958 was illumined by focused beams from several sources and cast a reflected light upon the future, indicating that it will be broadly different than the past.

To scrutinize tomororw in this industry, which makes useful industrial products from fishery by-product material, or from whole fish not marketable for human food, *Pacific Fisherman* undertook this study based upon a symposium of opinion drawn from men whose business it is to look ahead in this particular segment of the fishing industry.

• Here we seek to see something of the shape of tomorrow, its biological climate based upon its essential raw materials; its political aspects in California and Alaska; its new technological challenges; the intriguing possibilities of manufacturing by-products by processes which do not involve machinery; and remarkable advances in mechanical means of overcoming the handicaps laid upon the industry through cruder equipment and its careless use.

• Seeking the answers to many questions, and undertaking to trace the reflected images of 1958 experience upon the screen of the future, *Pacific Fisherman* addressed a letter of inquiry to a number of leading figures in the industrial fishery products business and technology. This article is based in large part upon their responses, with *Pacific Fisherman's* own factual report of 1958 developments, and this journal's interpretation of conditions and influences lying beyond the immediate scope of the questions directed to our panel of specialists.

• While inviting these men to comment broadly on matters of interest to them, we posed five specific questions, which we introduced by these words:

"Promise of renewed growth in fish reduction and by-products manufactured in the Pacific area prompts *Pacific Fisherman* to a study of the probable technology of that growth. We are thinking of course of the brighter prospects for California sardines; of the strong growth trend in Chile; of the 1958 Bering Sea operations of the Japanese; of the renewed interest in Alaska herring; of growing economic recovery from a given quantity of material. Below we are asking a number of questions, which we present not so much for specific answers but to indicate the type of inquiry we have in mind:

1. Presuming recovery of the California sardine industry, how will new equipment differ basically from that formerly employed?

2. What recent developments in fish reduction equipment and its operation may be considered as pointing the trend which may be expected to develop in the future?

3. Specifically: such items as airlift driers, disc presses, horizontal decanters, enzymatic digestion systems, horizontal vs. vertical evaporators, etc.

4. What design improvements in modern equipment do you find notable? What changes do you expect in the near future?

5. Is it to be expected that antibiotics will come to play a part in the fish products manufacturing field—in the handling of raw material, rather than as additives to the finished products?"

• The year 1958 saw, rising above all its other developments, two of outstanding note in the industrial fishery products manufacturing business. These ranking developments were: (1) the resurgence of the California sardine population, with the best prospects in a decade for the recovery of this resource to something like its former level of productivity; and (2) the remarkable experience of the Japanese in establishing a reduction industry based upon the catch of bottom fish

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- ★ Freshwater generators
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ATLAS - 3, Baldersgade - Copenhagen - Denmark by trawlers in Bering Sea, and its proof that a modern vessel, properly engineered and equipped, can continue reduction operations in the sub-Arctic under weather conditions with gales blowing at Force 8.

The implications of these developments seemed so significant that they actually led this journal into the broader study of the industrial products business of tomorrow.

The Prospect in California

- So far as the improved prospects for California are concerned, we specifically asked our specialists not to consider that we were pressing them for response on the biological prospects, but rather upon the probable use that would be made of the material.

One of them comments thus:

"There is a resurgence in the quantities of sardines available off the Pacific Coast, but it would appear that the California sardine reduction industry is totally unprepared for the return of the sardine. The industry will have one advantage and that is that it will be able to start from scratch, building new plants and installing the latest type of equipment. With newer, more modern equipment their operating efficiencies should be higher."

- One well informed commentator sees a probably sweeping change in California's attitude toward the utilization of sardines caught off its coast. He says this:

"As far as California is concerned, even if the sardines return in volume in the coming years it is questionable if reduction will be allowed other than that of cannery waste. In addition, with little hope of sardines being delivered for less than $50 per ton in the future, it would be economically impractical to utilize whole fish for making meal, oil and solubles."

Another observer takes a very different view and apparently is convinced that California will again issue reduction permits. He writes:

"As undoubtedly the California sardine industry will continue to be a state regulated operation, serious consideration should be given before a large number of reduction permits are issued. To promote efficiency and to produce high quality end products, the plants engaged in reduction work should have assurance of a reasonable supply of raw material. In other words, their reduction permits should be for no less than perhaps 20,000 tons of sardines per season. Such capacity would justify the use of the larger and more modern equipment and installation of sufficient machinery as to allow the rapid handling of the sardines after they are landed. As a result, a lesser number of reduction permits would be issued with higher tonnages permitted under each. If a larger number of permits were issued for relatively small capacities, the investment in plant equipment would not be worth while for the operator and perhaps the only plants that could take advantage of the return of the sardines would be those that still have a reduction plant installed.

"We can well understand that the state authorities are not going to move precipitately, but will wait and see whether or not quantities of sardines continue to increase. If so, several years from now we may have a reawakening of the California sardine reduction industry and a rebuilding of this business."

Potential of Higher-Profit Products

- Before shifting consideration from California particularly, the comments of another individual merit careful consideration. It is his opinion:

"Any revival of the California sardine industry should be made into an opportunity not only to replace obsolescent equipment with modern facilities but also to make an entirely new approach to the fishery industrial products processing field. I would hope to see the fishing industry, profiting by the experience of the meat industry, make an effort to develop new, more valuable by-products over and beyond the conventional fish meal and oil as presently being produced. This would mean, especially, processing of the fish oil to a more advanced stage whereby it would be fractionated into components having special industrial uses."

This commentator supplements his remarks by factual data showing that for one large meat packer studied meat and other food products sold constituted 87% of the total dollar

Contributing By-Products Specialists

- Specialists in the field of fishery industrial products manufacture who contributed to the accompanying symposium included:

J. R. Townsend, Fishery Consultant, 112 Market Street, San Francisco 11, California.

Edward J. Meier, Director, Public Relations, Standard Steel Corporation, P. O. Box 58252, Los Angeles 58, California.

Dr. H. L. A. Tarr, Director, Technological Station, Fisheries Research Board of Canada, 898 Richards Street, Vancouver 2, B. C.

Michael E. Conway, Public Relations Director, General Metals Corporation, Enterprise Division, 18th and Florida Streets, San Francisco 10, California.

M. E. Stansby, Chief, Pacific Coast Technological Research, U. S. Bureau of Commercial Fisheries, 2725 Montlake Blvd., Seattle 2, Washington.

Howard O. Sturgis, Director, Industrial Products Division, National Fisheries Institute, 1614 20th Street NW, Washington 9, D. C.

Dr. Eigil Ettrup Petersen, Manager, Fish Meal Department, A/S Atlas, Copenhagen, Denmark.

D. M. Landis, Vice President, DeLaval Pacific Company, 201 E. Milbrae Ave., Milbrae, California.

C. H. Maass, Sales Manager, Centrico, Inc., 75 W. Forest Ave., Englewood, New Jersey.

C. V. Chambers, Assistant Manager, P. & L. Manufacturing, Inc., 517 E. LaPalma Avenue, Anaheim, California.

Eastman Chemical Products, Inc., Kingsport, Tennessee.

R. W. Kenagy, Southwestern Engineering Company, P. O. Box 58264, Vernon Station, Los Angeles 58, California.

Charles W. E. Jane, executive sales director, Sharples Centrifugas, Ltd., P. O. Box 106, Nassau, Bahamas.

value, with the other 13% from by-products.

On the other hand, the 87% food sales produced only 22% of the company's profits while the 13% of by-products sales accounted for 78% of profits.

Another informed spokesman comments thus:

Economics of Good Housekeeping

● "I do not know to what extent California in the future may permit the utilization of whole sardines or other food fish for the manufacture of industrial fish products. I do know, however, that California will never again (1) permit noxious odors and air pollution from the reduction of whole sardines; (2) permit the discharge of organic wastes from fish reduction processes into the coastal waters of the state.

"These two conditions are of the past. They have been overcome in the Southern California reduction plants currently operating on cannery offal. They are totally unnecessary and are even less excusable from the standpoint of profits and economic operations than they are from the public relations and political point of view. The fish reduction operator manufacturing industrial products today simply cannot afford to waste any part of his organic materials, nor to foul the air or waters. If he does either in the future he is going out of business."

One engineer whose experience in the past ten years has put him in intimate contact with the by-products business in the fishing industry of 48 countries had very definite ideas on odor control and pollution elimination. Of the first of these he said:

"There are numerous means by which entirely satisfactory odor control can be achieved. All of them work to more or less extent, but I believe the best system of all involves the steam drying of fish meal with the air from the dryer drawn over a condenser, where a large part of its moisture content is condensed and drawn off as water, taking much of the odorous gases with it. The dried air is then returned to the fire box of the furnace as part of the air supply for combustion, with the few remaining odor factors consumed there."

● This matter of the plain economics of industrial fishery products manufacturing today comes in for some thoughtful comment from several sources. One scientist prefaces his comments with this paragraph:

"I am naturally hesitant to attempt any wild speculation in answering the five questions you have posed. As far as any changes in equipment are concerned, I feel that the industry here at least would have to be assured of better prices and more consistent markets before it would think of altering present equipment. It would also want to be assured of higher yields and products of higher nutritive value if any new method were adopted."

The Promise of New Processes

● New processes, or expansion of existing processes along new lines appear to offer attractive possibilities for the future of industrial fishery products to a number of the specialists who were consulted in this symposium. For example, one technologist writes:

"If the fishing industry is to gain full benefit from new developments, it is going to be necessary for it to get into the processing of its oil to a more advanced stage by installing new equipment and carrying out this fractionation itself and not relying on selling crude fish oil to intermediate

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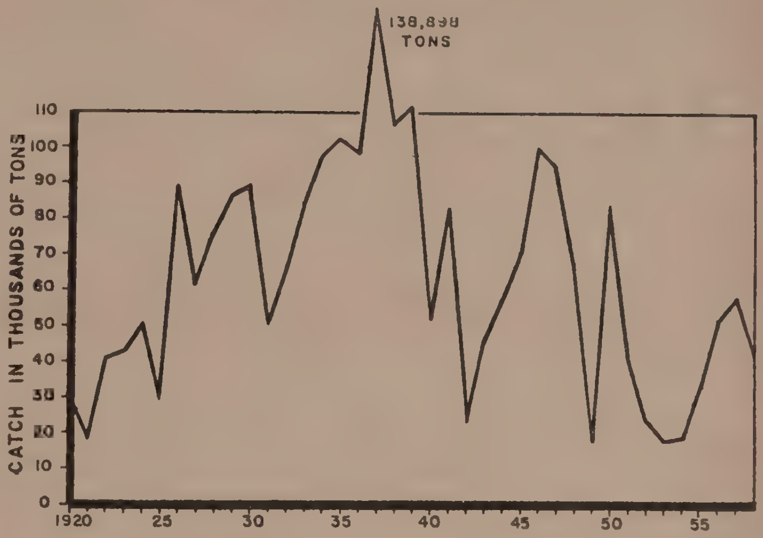


processors. *It is in this intermediate fractionation field that the bulk of the profits lies.*" (Emphasis supplied by editor.)

This same specialist goes on:

"Turning to the field of fish meal, recent advances in poultry feed are making necessary that in order to maintain its position as a premium constituent in mixed poultry feed, fish meal must be manufactured by better processing methods. This means that not only must the best low temperature drying equipment (e.g., air lift driers, steam driers, etc.) be employed, but also that other measures be taken to produce a uniform product with good storage characteristics. Any new fish meal installations should provide facilities for adding anti oxidant to maintain quality during storage by minimizing post processing heating, caused by too rapid oxidation of the oil in the meal. Facilities for adequate mixing and blending of meals must be provided to insure uniform, homogeneous product which does not vary in composition from bag to bag. Better control of the final product is needed to insure continued acceptance by the feed industry of fish meal as a premium product.

Anti-Oxidants Hold Profit Potential

- This matter of adding anti oxidants to fish meal draws comment from a number of the observers questioned.

One individual comments: "Addition of BHT (Butylated Hydroxy Toluene) to retard oxidation of the meal is standard practice in many plants."

Comments on the subject of anti oxidants in these words:

"It does seem likely that anti oxidants may be more and more applied, especially in areas where heating of fish meals is a serious problem. We ourselves are actively engaged in research on anti oxidants, but the problem with herring meals is never as acute as it is with menhaden and sardines."

Abundant data are available in scientific papers and laboratory reports on the use of butylated hydroxytoluene, "Tenox BHT," either food or agricultural grade, to fish oils and fish meals. One report summarized the matter in these words:

"The oxidation of fish oils and other lipoid materials is inhibited and their keeping quality improved by the application of Tenox BHT. Very effective stabilization of these products is obtained by the use of Tenox BHT in combination with a chelating agent such as one of the lecithin-type substances, fish solubles or soya lecithin. Tenox BHT, food or agricultural grade, properly applied to fish meal will inhibit the oxidation of the fish meal, reduce the heating of the meal, and make possible higher quality in the final product and savings in production, labor and time."

The report goes on to conclude that meal treated by means of butylated hydroxytoluene has a definitely improved appearance, better color and texture, and moisture-regain properties. It shows improved storage behavior."

The report continues: "Additional studies are now underway on the effect of anti-oxidant treatment on the stability of the vitamins and other nutritive elements in the finished fish meal. Further studies are also being conducted on the storage and shipment of anti-oxidant treated fish scrap and meals to determine optimum processing conditions necessary for maximum benefit from anti oxidant application."

Experience seems to agree that the optimum time, place and method for application for the butylated hydroxytoluene to the fish materials is by "spraying an oil solution of Tenox BHT, fish solubles, and water on the fish meal as it leaves the dryer. Possibly because of a tendency to steam distill, Tenox BHT is not as effective when applied to the fish scrap before the drying operation."

General Use of Antibiotics Doubted—

- Our question relative to the possibility of using antibiotics on raw fish supplies prior to processing as a means of preventing their decomposition and of reducing the equipment investment necessary in a plant stimulated response from several sources. These opinions were largely negative. One of them was expressed thus:

"We do not expect that antibiotics will be used for retarding spoilage of fish by-products for reduction in the foreseeable future. The cost is too high, while it has been established that to be reasonably effective, antibiotics must be used at temperatures of 40° F. or lower. This brings up the advantage of using chilled sea water for holding fish both for use as food and reduction purposes. It has recently been found decidedly practical in the menhaden industry to equip the large carriers for holding these reduction fish in chilled water and we expect to see this practice extended to other areas and possibly to the sardines boats on the coast of California. One large menhaden operator estimates the cost of using chilled sea water at not over $3.00 per ton of fish, with the advantage of holding up to ten days, and with better yield more than compensating for the extra cost."

Another observer with broad opportunity to test and sense the experience of the industry writes thus:

"There has been a considerable amount of investigation as to the ef-

Alaska Fish By-Products

(NOT INCLUDING VITAMIN OILS)

YEAR	SOUTHEAST ALASKA			PRINCE WILLIAM SOUND			KODIAK ISLAND AREA			ALL ALASKA		
	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons	Number Active Plants	Fish Oils, Gallons	Fish Meal, Tons
1958*	*	*	*	*	*	*	*	*	*	6	1,511,300	6,484
1957	3	*	*	2	*	*	**3	*	*	8	1,718,147	7,865
1956	2	758,010	3,551	...	493,435	2,208	**2	471,905	2,160	5	1,723,350	7,919
1955	*	*	*	*	*	*	*	*	*	4	1,041,989	4,480
1954	3	*	*	2	*	*	**1	...	..	6	676,570	3,069
1953	*	*	*	1	*	*	**2	**	*	5	576,845	2,401
1952	5	*	*	2	*	*	**2	*	*	9	803,467	4,590
1951	5	527,092	2,439	4	803,773	3,600	**5	109,000	632	14	1,439,865	6,671
1950	4	593,720	2,694	4	847,950	3,305	**4	1,581,514	7,695	12	3,033,184	13,694
1949	5	651,186	3,269	1	..	140	**3	16,900	199	9	686,086	3,608
1948	8	623,814	2,631	4	919,437	2,974	**7	1,959,378	7,078	19	3,501,631	12,483
1947	8	1,762,648	6,727	..	...	...	6	2,017,027	7,505	14	3,779,675	14,232
1946	5	1,359,409	6,860	2	453,962	2,066	4	1,731,536	6,942	11	3,544,907	15,868
1945	5	1,110,973	4,507	2	295,951	1,541	4	1,328,249	5,140	11	2,835,173	11,188
1944*	.	...	..	...	...	..	.	..	..	8	2,355,010	8,777
1943*	..	...	..	..	...	...	.	...	...	8	1,644,142	7,280
1942	1	60,000	700	1	62,518	270	2	770,000	2,570	4	892,518	3,540
1941	1	80,500	555	6	1,221,242	5,408	4	1,592,506	5,777	11	2,894,248	11,740
1940	1	40,000	450	6	1,290,857	4,720	3	808,822	2,973	11	2,139,679	8,143
1939	5	882,317	4,042	7	2,227,087	7,838	6	1,729,127	5,617	18	4,846,631	17,497
1938	6	951,109	4,489	6	2,403,797	8,847	4	1,224,273	3,637	16	4,593,579	16,973
1937	9	2,024,315	8,725	6	2,175,423	7,102	5	1,388,300	3,809	20	5,588,038	19,636
1936	6	1,421,470	6,487	6	1,426,323	5,546	5	975,344	3,018	17	3,823,137	15,051
1935*	...	...	...	...	...	...	...	...	...	19	3,853,243	15,818

* Data for separate areas of Alaska not available. ** Includes one on Cook Inlet

fectiveness of antibiotics on raw fish. There is definite resistance to these materials for several reasons. For a large volume of fish it is extremely difficult to introduce the antibiotics properly, since they have very little effect unless they reach the internal organs of the fish. The simple mechanical distribution throughout a large mass is not as easy and can become quite expensive. Finally, it appears that refrigeration of the fish is much more effective than the use of antibiotics, so the unit cost is generally considerably lower, especially in warmer climates. At this time I do not know of any accepted advantage to the addition of antibiotics to finished fish meal or solubles."

Another technologist, not quite so positive, has this to say:

"In Norway, sodium nitrate is used extensively as a preservative for herring intended for reduction, and it would seem that the use of nitrates or antibiotics, or combinations of these, could prove useful in retarding the very active spoilage of offals which sometimes occurs. Such spoilage frequently lowers efficiency of reduction methods and causes serious loss of nitrogen in the form of ammonia. The preservation of stick water prior to preparation of solubles may have to be considered for several reasons."

Digestion Process Appears Promising Under Specialized Marketing Conditions

● Beyond question, the subject of possible utilization of fish waste and whole fish for industrial products through a process of digestion is coming in for some serious thinking throughout the world. Already the process is utilized for the manufacture of high grade liquid specialty fertilizers from certain fish plant offals; and the digestion of certain visceral portions of offal and subsequent adding of the liquified material to the stick water for condensation, or its spraying onto the undried meal is established practice in a number of advanced operations.

This interest is reflected from a number of sources, some of which are quoted thus:

"Our chief engineer advises that there may be a trend toward liquid reduction in limited quantities."

And again:

"I think that enzyme or acid digestion methods may prove of value, but only if a system of meal production which is less costly than the present one, and which employs these methods can be worked out."

More extended discussion is ventured upon by one technologist in these words:

"Aside from the use of conventional reduction plants, there is now considerable interest in the making of liquid fish using enzymatic digestion or other methods to convert whole fish and waste into a liquid product. With the process particularly suited for small operations, and required investment much less than for standard reduction plants, this operation might be the answer for the rendering of cannery and filleting plant waste in areas where meal plants are uneconomical. It is considered feasible to concentrate the liquid fish to 50% solids similar to the present solubles being marketed, with resultant higher return than from fish meal. Of course, there is the limiting factor of transportation and the problem of moving the liquid fish from such isolated areas as Alaska to the blending and marketing areas. In this regard, some progress has been made with the preparation of dried solubles and perhaps that will eventually be the answer."

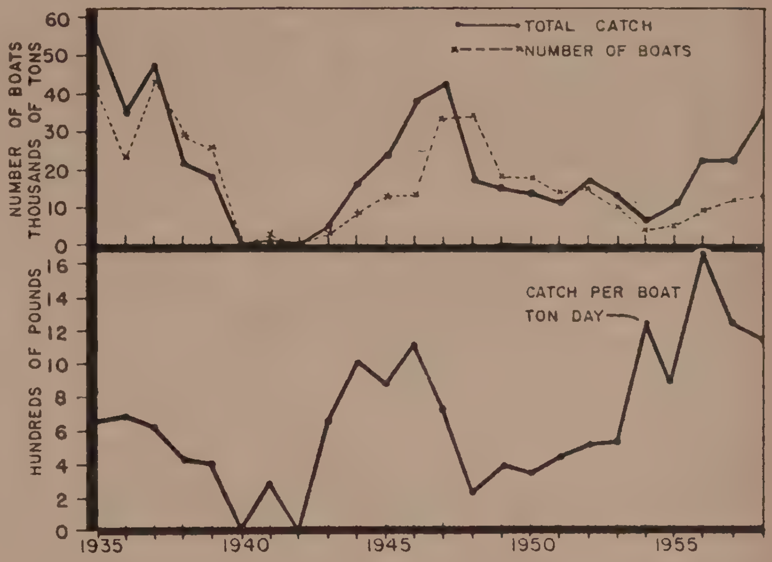
Pacific Fisherman ventures to interpolate here that the possibility of digestion of cannery offal is receiving sharp scrutiny by some Alaska operators, who look to it as possibly furnishing the long sought answer to their cannery waste problem. As they see it, the elimination of the large capital investment for plant and storage, and the large fuel demand inherent in more conventional reduction processes might go a long way toward offsetting the high transportation cost of shipping a product containing half water from Alaska to the markets. Yet again, the opportunities for handling the product wholly by means of pokes and in bulk in tank barges or vessels should prove quite attractive.

Development of a market in the feed mixing industry of the Pacific Northwest Seaport cities, with their low cost opportunities for handling,

• Peptic digestion processes may have a very real future, in the view of one technologist, who lists the several conditions which would contribute to the utilization of this method. He puts them thus:

"Advantage in peptic digestion processes depends in large degree upon several things: The supply of fish at any one time, the continuity of supply, the possibility of marketing a product in liquid form. In short, reduction by this method in an area where there is a large feed mixing business might be economically profitable because it would permit handling of all the material by pulps and tank trucks or pipe lines direct to the consumer, who would mix the protein material with his meal and feeds. It would also have advantages in areas where the material could be handled cheaply in water born tank vessels, provided they could deliver direct at terminal points to the users. On the other hand, there does not appear at this time to be much opportunity for it in any large by-products or direct industrial products manufacturing business."

S. E. Alaska Herring Catch, Boats and Effort



"Cooking Is Most Important Single Step In the Entire Fish Reduction Process"

• In the field of cooking this same engineer has some very definite ideas, which he puts in these words:

"The cooker is the most important single element in a fish reduction process. Good fish can be spoiled by improper cooking and recovery of both oil and meal can be greatly improved by careful and controlled cooking methods. The old method of cooking by the injection of raw steam into the jacket of a cooker while the fish is being conveyed through it by a helix is as obsolete as a wood burning locomotive. Under those conditions the steam just adds water which must be subsequently evaporated in the condensation process for making condensed fish solubles.

"The modern cooker has at least three divisions in a steam jacketed tube, through which the fish are conveyed by a helical conveyor which itself is steam heated through a hollow central shaft.

"Fish should be cooked in as dry a state as possible. Moreover, the construction of the cooker should be such that the heat of each section can be carefully controlled, while the degree of moisture should be regulated by the ability to inject steam under close control into any one of the sections if it should be desired to do so in order to provide steady flow of material through the cooking process.

"One thing more, and this is *vital*: The cooker should be of sufficient size so that any possible amount of fish which might be handled by the rest of the equipment could be handled without the cooker being overloaded. Overloading of the cooker is the most serious fault in many reduction plants."

Divergence on Drying Methods

• Drying of fish meals is a subject which develops some interesting divergence of opinion. One technologist has this to say:

"Undoubtedly some of the newer suggestions such as the use of air-lift driers offer possibilities, but we ourselves have never been able to find low temperature dried meals are of any greater nutritive value than good quality flame dried meals, except for a possible difference in folic acid and more labile P vitamins."

Another conservative soul says:

"We expect to see the regular rotary flame driers used largely in the future, although air-lift driers do a good job."

Another observer finds:

"Types of driers are largely a matter of personal preference, volumes of raw materials to be handled, and other factors such as availability of power, steam, and fuel."

The case for low temperature drying finds very positive advocates. One man with wide experience in manufacture for the European market puts it thus:

"Low temperature indirect steam drying is virtually essential in the production of fish meal for the European market, where light color is at a premium and protein digestability is highly regarded. Moreover, drying by these methods greatly reduces the problem of odor control and the elimination of atmospheric contamination."

Another advocate of low temperature drying, this one specially an enthusiast for the air-lift method, expresses it in these words:

"The protein in fish meals as well as other products is still sold on the basis of crude protein without reference to quality. However there is a growing tendency to purchase quality protein when available. This is particularly true, for example, in the manufacture of pellets to be used as fish feed at trout hatcheries. Fish meal comprises a considerable percentage of fish pellets and here for good growth and vigorous health is essential that the fish meal component, among other things, be of fine quality with low fat content and low temperature drying. The commercial meal produced by some older type of installations at high temperatures is not adequate or satisfactory for fish pellets. This tendency for high quality is growing and any plans for reduction plants now under way or in the future should give full consideration to this trend.

BRITISH COLUMBIA HERRING PRODUCTION

YEAR	Fish Landed Tons	CANNED HERRING (Cases)				Fresh & Bait Tons	Herring Meal Tons	Herring Oil (Imperial) Gallons
		1-lb. Talls	1-lb. Ovals	1/2-lb. Ovals	Total Full Cases			
1958 Spring Season	25,630	...	...	...	...	N. A.	N. A.	N. A.
1958 Fall Season	174,576	...	...	...	...		31,337	3,955,508
1958 Grand Total	200,206	...	...	...	...		31,337	3,955,508
1957 Spring Season	92,538	..	...	...	..	963	16,812	1,187,841
1957 Fall Season	59,128	...	..	..	..	...	11,115	1,417,120
1957 Grand Total	151,666	..	...	...	...	963	27,927	2,604,961
1956 Spring Season	154,117	.	. .	...	...	1,233	30,140	2,241,814
1956 Fall Season	87,405	...	...	...	...	15	15,743	2,264,921
1956 Grand Total	178,282	..	...	...	...	1,248	45,883	4,506,735
1955 Spring Season	58,882	...	...	...	...	867	11,587	1,040,608
1955 Fall Season	94,776	...	...	...	...	112	15,923	1,930,248
1955 Grand Total	153,658	...	...	...	...	979	27,510	2,970,856
1954 Spring Season	67,045	...	...	...	...	1,195	12,478	442,747
1954 Fall Season	111,237	...	...	...	6,470	152	17,344	2,622,103
1954 Grand Total	178,282	...	..	...	6,470	1,347	29,822	3,064,850
1953 Spring Season	12,011	...	...	...	10,230	51	1,790	363,200
1953 Fall Season	132,576	...	...	...	75,312	452	21,937	2,608,399
1953 Grand Total	144,587	...	...	...	85,542	503	23,727	2,971,599
1952 Spring Season	90,236	...	...	..	2,764	1,764	16,221	1,428,206
1952 Fall Season	...	...	...	...	...	..	...	..
1952 Grand Total	90,236	...	...	...	2,764	1,764	16,221	1,428,206
1951 Spring Season	72,925	...	...	...	116,674	23,820	13,388	949,801
1951 Fall Season	107,103	..	...	...	102,536	32,340	17,059	2,320,994
1951 Grand Total	180,028	...	...	...	219,210	56,160	31,447	3,270,795
1950 Spring Season	74,621.00	...	..	...	2,475	150.34	14,604.35	988,372
1950 Fall Season	114,258.00	...	...	...	61,152	605.64	17,961.08	2,308,736
1950 Grand Total	188,879.00	...	...	...	63,627	755.98	32,565.43	3,297,108
1949 Spring Season	76,546.62	2,613	...	...	2,613	2,103.35	13,361.50	548,432
1949 Fall Season	106,259.00	1,000	74,162	225	75,387	1,051.48	16,075.10	2,317,113
1949 Grand Total	182,805.62	3,613	74,162	225	78,000	3,154.83	29,436.60	2,865,545
1948 Spring Season	87,915,01	79,128	215,050	21,829	315,007	1,589.56	12,757.87	751,064
1948 Fall Season	112,705.18	...	...	...	90,202*	554.75	18,244.07	2,019,508
1948 Grand Total	200,620.19	79,128	215,050	21,829	405,209	2,144.31	31,001.94	2,770,572
1947 Spring Season	42,006.34	250,595	176,203	4,125	430,923	3,183.05	4,109.20	200,581
1947 Fall Season	77,412.98	219,635	698,786	10,748	929,719	1,045.25	7,212.09	1,092.057
1947 Grand Total	119,419.32	470,230	874,989	14,873	1,360,642	4,228.30	11,321.29	1,292,638
1946 Spring Season	29,376.48	71,537	61,290	21,975	154,802	3,304.71	3,437.30	251,838
1946 Fall Season	67,691.61	80,281	886,889	40,802 ½	1,007,972 ½	5,718.73	4,364.25	644,777
1946 Grand Total	97,068.09	151,818	948,179	62,777 ½	1,162,774 ½	9,023.44	7,801.55	896,615
1945 Spring Season	61,906.03	80,001	127,202	55,418	262,621	3,558.05	8,350.96	490,214
1945 Fall Season	70,193.36	67,296	1,056,310	30,290	1,153,896	1,131.10	4,420.45	610,643
1945 Grand Total	132,099.39	147,297	1,183,512	85,708	1,416,517	4,689.15	12,771.41	1,100,857

*Sizes of cans not designated.

"Air-lift drying produces as good quality as can be attained commercially, while the problem of odor is virtually eliminated by this system. The air-lift drying system is normally adequate for all legal requirements on the Pacific Coast without the addition of any anti-smog accessories. However, one eastern installation in an area where no untreated vapors whatever may be discharged, recently installed an enclosed system in which only a small quantity of the total discharge is bled off to a boiler for incineration. The balance is used for pre-drying. This is then dehumidified and recycled. The complete setup has resulted in approximately 20% increase of capacity with 10% reduction in fuel. This same advantage can be affected if desired at other existing air-lift installations."

One technologist with world wide experience has this to add to the subject of driers:

"As to driers, the rotary horizontal type remains popular with hot air preferred to the more expensive installations of steam tube driers, even though the latter eliminates the danger of overheated and burnt meal."

Concentration equipment did not come in for much comment in our symposium, but this technologist went on to say:

"Then with the utilization of all stick water in most plants for conversion into solubles or for making full meal, the new high pressure and vacuum evaporators being manufactured in Europe have certain advantages with low upkeep. Where not economical to ship solubles, the practice of blending back the 50% solubles with press cake to make full meal is standard procedure."

• Condensation of fish solubles as a means of eliminating pollution of the coastal waters is generally accepted as having a economic advantage as well as the improvement of public relations. Speaking from the standpoint of one widely travelled and specially familiar with the conditions in Europe, one engineer says:

"Pollution elimination follows as result of the economic utilization of stick water for the manufacture of condensed fish solubles. In Denmark it is against the law to build a plant without such equipment, and if you have an existing plant built it is against the law to discharge the effluent into the sea or tidal waters. Not only is it against the law, but there is a compelling economic advantage in utilization of the material and I think that we shall never again see a reduction plant built in any area in the world where there is any considerable habitation at least, or where transportation is not prohibitive, which does not have as a component a stick water condensation system, or a means of delivery its stick water to such a system."

Presses and Press Liquor Handling Disclose Sharp Personal Preferences

• Presses and the various systems of pressing seemed to develop relatively little disagreement within the group of specialists consulted. In general they seem to feel that the screw type press which has been standard for many years had many advantages in general installations, although they noted trends for use of disc presses or twin screw presses under certain conditions.

Some of the comments on presses and pressing follow:

"The screw type press remains popular although a number of improvements that have been made with twin screw processes by European manufacturers are making them popular in foreign countries."

Another man puts it so:

"Presses are matters of personal preference, but the actual presses will be chosen on the basis of their efficiency in handling particular types of fish. We can only say that there does appear to be increasing interest in double screw presses and indirect cookers because these combinations have been reported in some instances to be most effective.

Advocates of the rotary disc press as contrasted with the screw press make several points in their argument, as:

"The high efficiency of the rotary disc press is attributed to the short distance the product travels to meet the greatest pressure point. Thus the material reaches maximum pressure at a higher temperature and the press delivers a press cake with lower oil and moisture content. Since there is no appreciable amount of agitation during the pressing action the foots content of the press liquor is maintained at a minimum."

Advantages inherent in the twin screw fish reduction press are put thus by a man thoroughly familiar with this equipment:

"When material is in poor condition it can be handled much more satisfactorily with a twin screw press than in the single screw operation. This is because of the shearing action between the screws, which will press fish material that is in almost liquid condition, and which would be simply pulped by a single screw press. Admittedly, the capacity of the twin screw may not be so great, but the economies in its operation through full utilization of material makes it a very interesting piece of equipment where material costs are high."

Treatment of Press Liquor Develops Conflicting Opinions

• Treatment of press liquors, and particularly prior to centrifuging, develops some differences of opinion in our survey. One technological consultant says this:

"For removing suspended solids, circular vibrating screen separators are becoming popular and replacing shaker screens and suspended centrifugal baskets, where doing the job as well as horizontal decanters at much less cost. Also for oil separation the new improved centrifugals, particularly from Europe, with continuous ejection of solids and built of stainless steel throughout are a vast improvement over many centrifuges used in the past."

Yet another engineer writes of this same type of installation:

"In order further to reduce the solids discharged from the vibrating screen, one of the units employed was converted to a two-screen type, with the same mesh on both units. The solids discharged from the upper screen, receiving the total feed were channeled to the lower screen, in effect doubling the area over which the solids are passed. By doing this the moisture content of the solids can be reduced an additional 6½%, allowing the solids to be blended directly with the press cake en route to the dryer. This unit in connection with another since installed enables each of these screens to handle approximately 2500 gallons per hour of press water. In extended operation the screen replacement costs of circular vibrating screens in fish reduction operations has been found negligible."

The horizontal decanter, on the other hand, finds plenty of friends. One man writes:

"I believe the day of the vibrating screen is passing in fish reduction, just as the old style revolving screen passed away before it. I think the horizontal centrifuge or super decanter is the inevitable answer and a factor of almost indespensable character in the reduction plant because it so greatly increases the capacity of the centrifuges for roughing and polishing the oil, reducing their shutdown or discharge periods to a minimum. Moreover, the horizontal super decanter successfully removes 90 to 95% of the solids from stick water."

• Expousing the cause of the horizontal decanter with equal vigor, another engineer writes:

"In the past the efficiency of the oil separators was impaired and cleaning necessitated more frequently by failure of screening methods to remove solids from the press liquor. The problem was solved when vibrating screens were replaced by centrifugal super-decanters. These machines apply a force more than 2,000 times greater than gravity's pull to the sedimentation of splids from the press liquor and as result they are able to discharge a fishmeal suitable for direct feeding to the drier without foots pressing.

"Also the liquid from the decanters is much clearer. It gives increased yield from the centrifuges, and the down-time for cleaning is greatly reduced."

In direct support of his argument in favor of horizontal decanters, this engineers submits data from an Icelandic firm which kept careful records of its experience, finding that the horizontal centrifuge "made it possible for the increases in oil and meal yield to pay off the cost of replacing the screens and foots presses with a super-decanter after processing less than 5,000 tons of fish. The increased output of meal amounted to 3%, based on the overall weight of raw material.

PACIFIC COAST FISH REDUCTION PRODUCTS

Fish Oil

Fish Meal

(Gallons)							(Tons)					
Alaska	Wash.	Oregon	Calif	British Columbia	TOTAL	Year	Alaska	Wash.	Oregon	Calif.	British Columbia	TOTAL
232,376	116,282	20,000	26,063	...	394,721	1916	1,594	...	100	535	.	2,229
231,142	205,511	25,000	176,293	49,784	686,730	1917	1,858	3,186	190	3,481	1,220	9,935
147,716	98,711	35,200	346,724	64,060	692,411	1918	600	1,885	95	8,734	1,977	13,291
170,340	90,921	25,000	514,262	65,945	866,468	1919	1,218	1,114	350	11,153	1,847	15,682
720,118	21,850	23,175	611,585	66,802	1,443,530	1920	3,928	352	136	8,856	466	13,738
99,948	170,008	48,000	336,738	53,640	708,334	1921	678	1,354	300	6,317	489	9,138
454,938	157,555	14,000	547,050	90,553	1,264,096	1922	1,958	1,216	40	9,027	911	13,152
915,143	135,145	24,000	951,888	196,381	2,242,557	1923	3,635	992	150	9,238	823	14,838
1,193,705	79,028	42,000	2,350,722	289,651	3,955,106	1924	5,560	607	275	15,328	1,709	23,479
2,391,832	97,890	47,400	3,150,041	1,020,607	6,707,770	1925	9,302	1,395	300	22,936	4,551	38,484
3,018,675	78,352	58,000	2,123,928	2,555,485	7,834,440	1926	12.093	822	325	15,767	10,543	39,550
2,067,041	81,801	65,000	2,618,490	3,863,347	8,695,679	1927	7,704	956	500	21,374	16,659	47,193
2,585,990	79,347	54,000	3,749,302	4,877,059	11,336,698	1928	10,713	670	425	28,390	15,331	55,529
3,415,154	131,059	62,000	6,548,126	4,0[illegible]6,584	14,222,923	1929	13,353	1,554	460	43,496	21,208	80,071
3,601,305	121,602	53,600	5,842,763	4,767,120	14,386,390	1930	12,847	1,046	400	36,276	17,542	68,111
2,207,686	128,769	36,000	3,924,692	3,485,287	9,782,434	1931	8,704	714	228	22,440	19,561	51,647
2,632,154	79,219	33,000	5,125,399	1,857,065	9,726,837	1932	10,168	757	143	27,500	15,450	54,018
3,195,294	111,098	33,500	10,708,448	935,582	14,983,922	1933	11,435	1,085	210	58,879	6,752	78,361
3,741,604	116,967	38,000	18,910,687	2,492,230	25,299,488	1934	14,341	876	280	95,193	12,654	123,344
3,853,243	110,960	1,144,374	20,695,423	2,644,214	28,448,214	1935	15,818	1,032	4,763	103,772	16,090	141,475
3,823,137	304,975	552,497	24,511,950	2,802,678	31,995,237	1936	15,051	1,687	2,864	126,143	21,948	167,693
5,588,038	942,548	689,159	14,823,508	3,942,576	25,985,829	1937	19,636	4,012	2,775	93,897	25,630	145,950
4,587,513	1,231,144	718,830	16,065,029	4,023,798	26,626,314	1938	17,066	4,977	2,933	97,451	21,006	143,433
4,837,298	830,480	833,300	18,980,527	2,068,779	27,550,384	1939	17,477	4,651	3,933	105,169	19,468	150,698
2,142,674	180,830	114,717	13,214,990	3,388,442	19,041,653	1940	8,144	1,528	592	86,137	31,899	128,300
2,894,248	552,491	398,235	17,677,198	3,304,657	24,290,751	1941	11,740	4,168	2,969	102,812	24,312	146,001
892,518	144,691	33,214	12,686,640	2,255,908	16,012,971	1942	3,540	1,608	861	79,003	26,474	111,486
1,644,142	586,102	58,000	14,016,179	3,738,818	20,043,241	1943	7,280	3,231	1,365	86,151	24,919	122,946
2,355,010	65,460	50,000	18,271,859	3,548,422	24,290,751	1944	8,777	901	1,200	96,853	20,852	128,583
2,835,173	221,218	26,000	12,062,111	2,875,323	18,019,825	1945	11,188	2,894	907	78,653	21,123	114,769
3,544,907	341,423	133,727	4,902,625	1,431,600	10,354,282	1946	15,869	3,826	1,633	52,895	10,561	84,784
3,779,675	200,801	246,184	2,633,604	1,778,327	8,415,449	1947	14,232	1,631	2,040	37,065	12,773	62,611
3,501,631	210,923	114,928	2,833,197	3,427,273	10,087,952	1948	12,683	3,269	1,228	44,450	31,087	92,717
668,086	207,000	26,700	6,725,255	2,880,219	10,507,260	1949	3,608	3,200	1,786	66,504	31,419	106,517
3,033,184	110,960	23,085	7,202,130	4,015,024	14,384,383	1950	13,694	1,032	1,260	70,769	34,174	120,929
1,439,865	164,000	24,000	2,735,590	4,087,136	8,450,591	1951	6,671	1,178	1,150	41,498	34,235	84,732
803,467	130,000	19,000	1,280,994	250,465	2,483,926	1952	4,590	897	744	37,149	4,764	48,144
500,713	169,000	53,000	814,221	3,823,436	5,360,370	1953	2,544	2,690	1,607	25,121	26,944	58,906
676,570	244,343	51,380	1,408,245	4,776,395	7,156,933	1954	3,069	5,635	1,519	30,278	31,143	71,644
1,041,989	138,000	72,000	1,502,797	3,592,157	6,346,943	1955	4,480	3,200	1,800	30,740	25,104	65,324
1.723.350	93,000	86,000	1,190,259	6,691,082	9,783,691	1956	7,919	2,100	2,000	30,664	51,992	94,675
1,718,147	139,000	83,000	924,593	3,459,800	6,324,540	1957	7,865	1,676	1,600	29,065	27,214	67,420
1,511,300	210,000	90,000	1,438,738	5,269,109	8,519,147	1958	6,484	2,350	1,200	28,994	35,173	74,201

The capacity of this machine operating on California pilchard press liquor is 2,800 U. S. gals. per hour, or more. The feed contains 2% insolubles, which are reduced to 0.5%. A 50% total moisture content, including oil, is normal in the meal. The oil content averages about 8% after drying, and may be as low as 6%."

Efficient Heating Advocated For Centrifuge Feed

• There is no divergence of opinion among our specialists as to the desirability of oil clarifications, separation, and polishing by means of centrifuges. Not only have these devices wholly supplanted the old gravity separation method utilizing settling tanks, but it is apparent that heat exchanges are replacing steam coil and steam injection systems for raising the temperature of the press liquor to the proper separation temperature. One of our consultants says:

"One of the technological changes we would expect to see in a revived California reduction industry in the utilization of plate heat exchangers in order to condition the press liquor for most efficient separation of the oil. It is now possible to use high efficiency plate heat exchangers employing the vacuum steam method, by which vacuum is pulled on the steam side of the plates and the temperature of the heating steam is maintained in proportion to the vacuum. For example, one fairly large plate heat exchanger installation in the menhaden industry is capable of heating 18,000 gallons per hour of press liquor from an initial 140° F. to 200° F. by means of vacuum steam at a temperature of 205° F. The engineering design of the plate as such as to create turbulent flow and the low temperature difference between the heating medium (steam) and the final temperature for the product eliminates the danger of burn or of the proteinaceous or glue products in the press liquor. The use of plate heat exchangers results in a number of advantages, far less emulsification, as there is no live steam injected into the press liquor; less dilution of the press liquor with water which has to be removed later in the process when the stick water is converted to fish solubles; a better quality of oil, as there is less localized overheating, and the press liquor is held at elevated temperatures for a shorter period of time, less actual steam required for heating the press liquor."

Japan's New Bering Sea Factory Ship Turn in Remarkable Initial Season

• An interesting installation of centrifugal equipment is that aboard the *Ginyo Maru*, the Japanese factory ship which in 1958 pioneered the reduction of bottom fish in Bering Sea. In general, these fish used as plant feed for the *Ginyo Maru* are low in oil content and at first glance it would appear uneconomic to install expensive equipment for the recovery of so small a quantity of oil.

On the other hand, it is known that the *Ginyo Maru* operation was predicated primarily upon the sale of fish meal to the European markets, which puts a premium upon light color and low oil content. At the same time, the high protein specifications for the meal made it essentially that the stick water be concentrated and returned to the meal. If this were done and the oil was not recovered from the stick water prior to concentration, engineering tests showed that the average meal would suffer degrade by virtue of excessive oil. Therefore the installation was engineered to provide for the recovery of the relatively small amount of oil, not so much because of the value of the oil itself as because of the value which its removal added to the fish meal, the prime product of the venture.

It may be mentioned here that this installation, which was engineered and supplied primarily by Atlas of Denmark, proved itself capable of operation successfully under sea conditions resulting from Force 8 gales.

It is known that the initial operations of the *Ginyo Maru* were so successful that two of Japan's gigantic fishery companies immediately requested permission from the Fishery Agency of Japan to place similar expeditions in the field in the immediate future. It is to be expected that by 1960 at least three such Japanese factory ship operations supplied by trawlers might be expected to be active in the shallower waters of eastern Bering Sea."

Whaling Best Ever

● It was a big year for whaling off the coast of British Columbia in 1958—probably the biggest on record by a substantial margin—primarily due to the changes in ocean temperature which also affected the salmon and other fisheries.

A total of 774 whales were killed by the chaser boats of the British Columbia Packers fleet, operating out of the Coal Harbor base in Quatsino Sound. This figure compares with 635 whales caught in the previous season, and tops all previous kills by B. C. Packers vessels. In the early days of whaling off British Columbia the annual whale harvest was seldom more than 400 in a season.

The season was notable for the large number of baleen whales killed, more than 500 finbacks of the baleen type being taken, compared with only 114 sperm whales, fewer than usual. Baleen whales are relatively low in oil content, producing chiefly animal feed and whale meal. Only eight of the big Blue whales were taken, surprisingly less than half the number taken during the season by the San Francisco operation.

While scientific proof might be lacking, it was generally assumed that the heavy abundance of whales off the west coast of B. C. resulted from a 5° increase in temperature of the water — a condition that improved feeding conditions and accounted for the prevalence of Albacore at exceptionally high latitudes, although few were taken commercially off B. C. because of the fishermen's preoccupation with the big run of Sockeye salmon.

B. C. packers boats made more extensive use of terramycin and aureomycin last season and it was generally recognized that the whale meat was more efficiently preserved as a result. Experiments in this connection have been carried on by the company in co-operation with Dr. H. L. A. Tarr, director of the Fisheries Experimental Station, Vancouver, whose work in the field of antibiotics has received wide attention. The antibiotics are injected into the whale carcasses when the dead mammals are inflated prior to being towed to the shore station.

● San Francisco Bay in 1958, with two whaling plants operating, was the sole center of American whaling.

Del Monte Fishing Co., at Pt. San Pablo, Richmond, is now in its third year of successful operation, and Golden Gate Fishing Co., a new company, wound up its first season with a catch of 60 whales—40 finbacks, and the other 20 divided among, sperm, humpback and blues.

President of Golden Gate Fishing Co. is Leon Barlas; vice-president and general manager is Hermann Foland, well known in the whaling and fishing business, and a partner in Hunter & Foland Fish Co., Eureka.

Robert Casebeer, superintendent, worked for Hunter & Foland in Eureka for six years, and was associated with Mr. Foland's Peruvian whaling operation as superintendent. He also worked for Del Monte Fishing Co. as night superintendent. The company has one killer ship, the 136' *Lynnann*, Lloyd Newton, skipper.

The plant of the Golden Gate Fishing Co. is in the old Pittsburg Packers building on Pt. San Pablo. Whales are flensed there, and blubber, meat and offal are sent to the Independent Rendering Co., Pt. San Pablo for processing. The meat is frozen and packaged for mink food.

Company officials stated that the 1958 season was the most successful on record for Del Monte Fishing Co.

The catch was 201 whales and was divided into 19 blues, 102 humpbacks, and 80 finbacks. This was the first season the company had ever caught any blues. One weighed 105 tons.

The company has put in additional refrigeration capacity for processing the whale meat, and additional tankage. Later on additional floor space for working whales will be added.

Officials state that it now looks as though there were an assured supply of whales for a continued successful operation. The oil market has been poor, but the meat market has been good.

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Kent E. Ratcliffe, Manager

•

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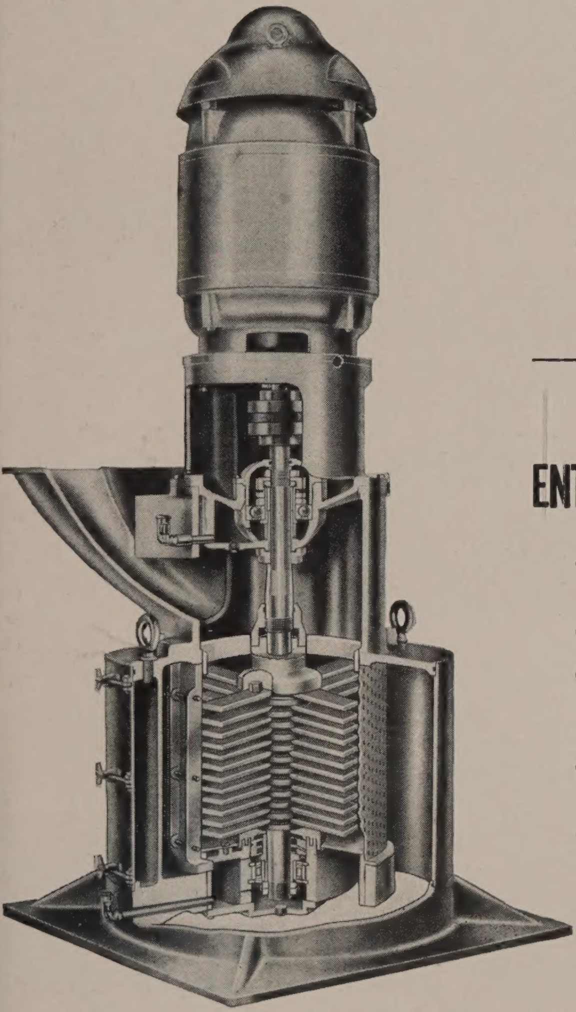

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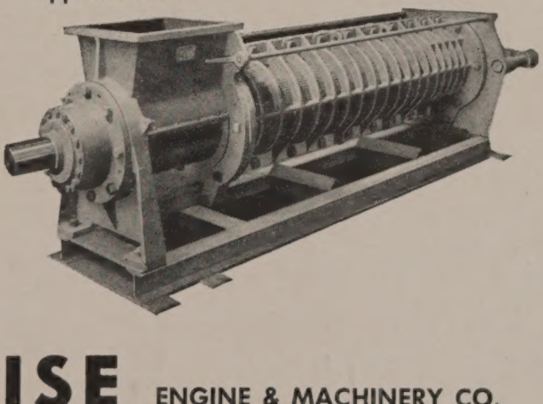

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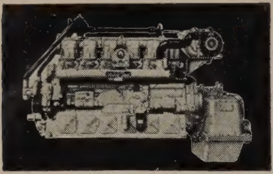

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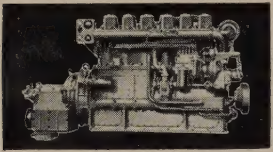

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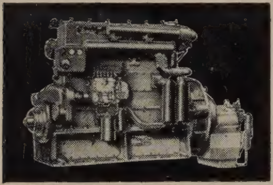

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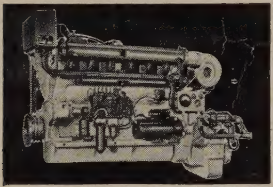

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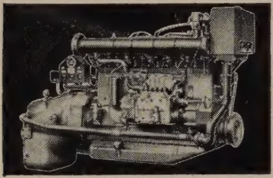

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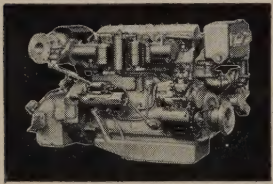

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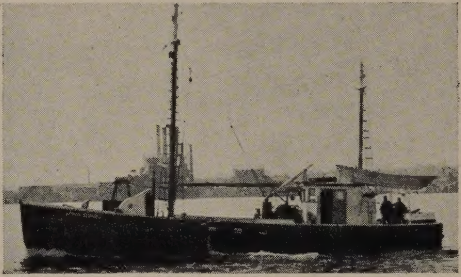
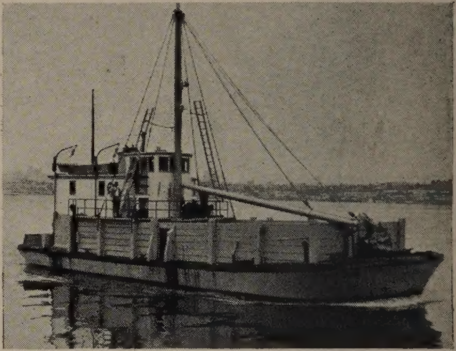
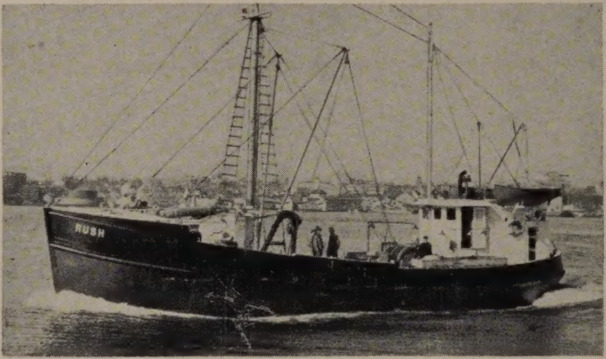


CAPTAIN. DEEBOLD — 65-ft. dragger. Powered by Waukesha "RESOLUTE." Installation by Hathaway Machinery Co., Inc., Fairhaven, Mass.

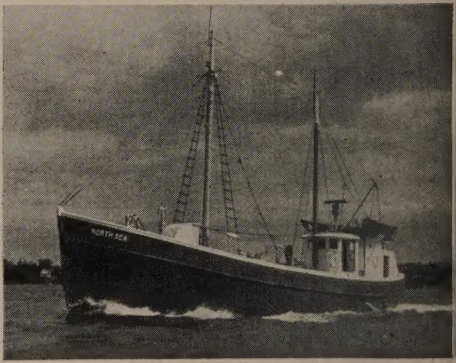


VIEKODA—72-ft. twin screw tender. Powered by two Waukesha "VIGILANTS." Installation by Piston Service, Inc., Seattle, Wash.



RUSH—73-ft. dragger. Powered by Waukesha "DEFENDER." Installation by Hathaway Machinery Co., Inc., Fairhaven, Mass.

NORTH SEA—72-ft. dragger. Powered by Waukesha turbocharged "RESOLUTE." Installation by Hathaway Machinery Co., Inc., Fairhaven, Mass.



BENSON H. RIGGIN—91-ft. Menhaden seiner. Powered by Waukesha "DEFENDER." Installation by Quinn Fisheries, Port Arthur, Texas.

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	Turbo	12	8½ x 8½	5788	990 horsepower @ 1215 rpm
DEFENDER	Normal	6	8½ x 8½	2894	335 horsepower @ 1215 rpm
	Turbo	6	8½ x 8½	2894	510 horsepower @ 1215 rpm
WANDERER	Normal	6	7 x 8¼	1905	240 horsepower @ 1215 rpm
	Turbo	6	7 x 8¼	1905	315 horsepower @ 1215 rpm
RESOLUTE	Normal	6	6¼ x 6½	1197	195 horsepower @ 1600 rpm
	Turbo	6	6¼ x 6½	1197	290 horsepower @ 1600 rpm
VIGILANT	Normal	6	5¼ x 6	779	150 horsepower @ 1800 rpm
	Turbo	6	5¼ x 6	779	195 horsepower @ 1800 rpm
CUTWATER	Normal	6	4¼ x 5	426	100 horsepower @ 2000 rpm
	Turbo	6	4¼ x 5	426	120 horsepower @ 2000 rpm